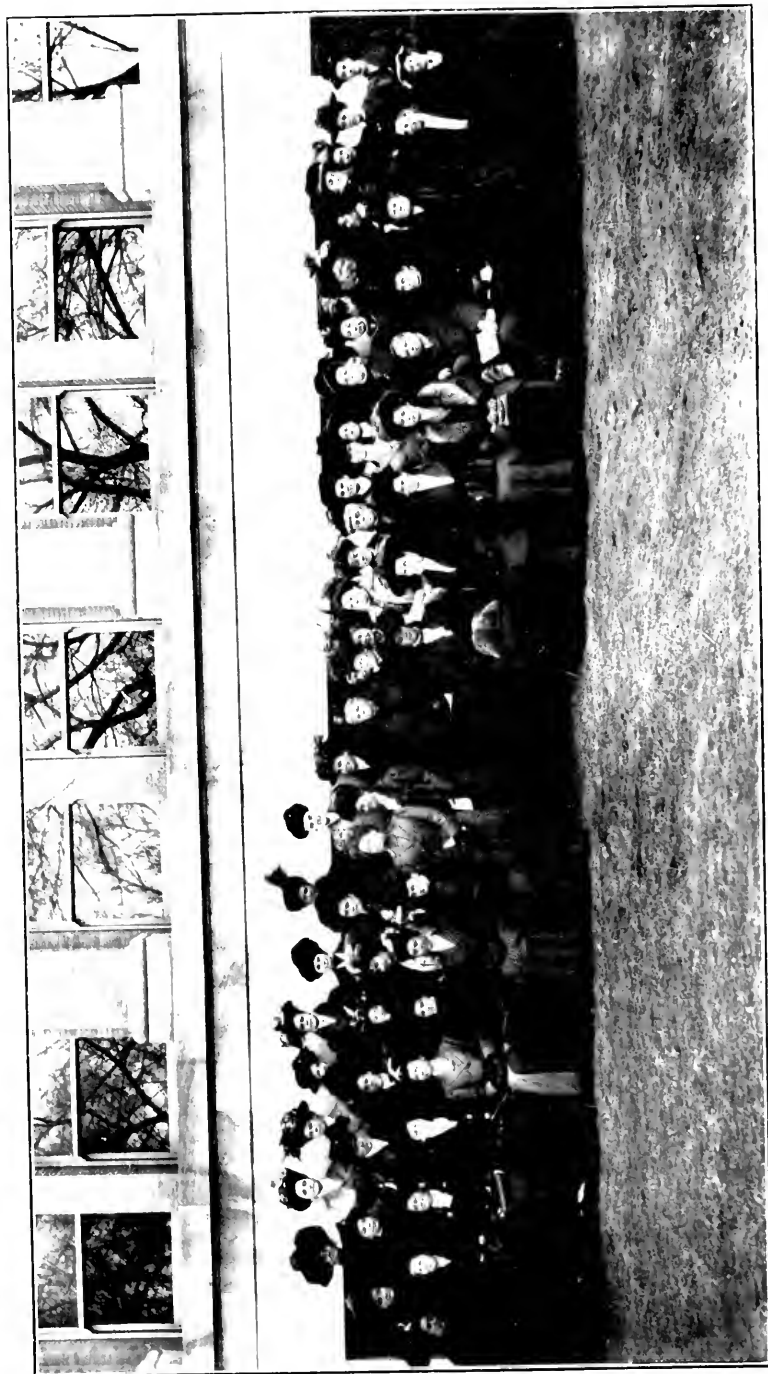


U. H. S.



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DELEGATES TO THE FIRST CONVENTION OF AMERICAN HOME ECONOMICS ASSOCIATION, WASHINGTON, D. C., DEC. 31, JAN. 1, 1909

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THE
Journal of Home Economics

VOL. I.

FEBRUARY, 1909

No. 1

ANNOUNCEMENT

The American Home Economics Association and the Journal of
Home Economics.

The American Home Economics Association was formally organized at a meeting called for that purpose at Washington, D. C., December 31-January 2, 1908-9. Some one hundred and forty-three persons registered as present at one or another session of the conference, and when the delegates met for the informal convention dinner on New Year's night, the list of original members stood at exactly seven hundred. The membership on February 1, was 830.

The Association has for its purpose, according to the constitution, "the improvement of living conditions in the home, the institutional household and the community"; and welcomes to its membership "all who are actively interested in home problems including: "all professionally concerned with this field, as teachers of Domestic Science and Art, Home and Institutional Economics, and allied educational fields, students, investigators, housekeepers, institution managers, social and municipal workers, interested housewives and homemakers; professional workers in allied fields, as educators, physicians, hygienists, sanitary experts, architects, and others; clubs, associations, societies and institutions interested in the work of this Association."

The specific means with which the Association proposes to attain these ends are stated in the constitution which is printed elsewhere in this issue. Most prominent, perhaps, among the agencies for advancement which were mentioned both in the preliminary discussions and correspondence and in the sessions at Washington, was a professional journal to be owned by the Association and published under its direction. The constitution which was adopted contained a clause directing the Executive Committee to publish such a journal. This first number of the

Journal of Home Economics, therefore, appears. For the present it will be published as a bi-monthly in the months of February, April, June, October and December, though it is the earnest hope and expectation that it may increase both in size and worth, and in frequency of issue, as time goes by.

Certain purposes of such a journal are evident. It should, of course, contain reports of proceedings of the conventions of the Association, and as far as practicable, reports of local societies affiliated with the American Association. It will be agreed probably that as a professional journal it should, first of all, print original articles both on the theoretical side of the household arts and sciences and in the applied fields, whether of education, or of practical work in the home, the institution and the community. Such articles must be written in large part by our own membership, although the cooperation of expert persons in other fields may be expected, and should embody the results of scientific study or of practical experience and represent the best which any one of us has to offer to fellow workers. A related division of such a journal is that of abstracts to present the gist of articles appearing elsewhere, for a professional journal should, as far as practicable, be a "review of reviews" of other publications, when, as occasionally, they enter its own limited field. Signed reviews and briefer statements of books naturally form another section. News items, whether referring to persons, institutions or other subjects, may well be grouped together. Editorial statements by those responsible for the Journal, and enquiries and expression of opinion from Association members may appear occasionally. To such a structure, life will come only as thought and energy are devoted to it by many persons. As the plans for the Journal are carried further, a Board of Contributing Editors representing the various fields of home economics will doubtless be needed who may stand sponsor each for the varied interests involved.

The American Home Economics Association is not a new movement; it represents the further development of an activity, which as the Lake Placid Conference on Home Economics has for ten years furnished leadership in bringing science and art into the service of the home. The new Association will welcome into its membership all who are in sympathy with this purpose.

LAKE PLACID CONFERENCE ON HOME ECONOMICS, 1899—1908.

Ten years ago a small group of eleven persons met by invitation at the Lake Placid Club in the Adirondacks for a conference on "home science or household economics." There were present: Mrs. Ellen Richards (chairman), Miss Anna Barrows (secretary), Miss Maria Daniell, Mr. and Mrs. Melvil Dewey, Miss Emily Huntington, Mrs. W. V. Kellen, Miss Louisa A. Nicholass, Mrs. Alice Peloubet Norton, Miss Maria Parloa and Mrs. William G. Shailer. This was the first Lake Placid Conference on Home Economics, September 19-25, 1899, and as the Lake Placid organization is now to be merged in the new American Home Economics Association, for whose organization, indeed, the Lake Placid Conference provided, it is fitting that some historical statement should be here made. It is impressive to read to-day the list of topics set in advance for discussion at the first Lake Placid Conference. They were as follows:

1. A classification of household economics as a working basis.
2. Additions to the bibliographies already printed, with annotations.
3. Provision for the higher education of some selected young women who shall be fitted by the best training for a higher leadership.
4. A compilation of the results of experience in teaching domestic economy in schools of this kind in this country and in Europe.
5. The preparation of a series of papers or brochures in domestic science, which the government may publish and distribute as it now does the bulletins on food and nutrition through the department of agriculture.
6. The founding of state schools or chairs of household economics in our state universities.
7. The training of teachers of domestic science.
8. What name best interprets this work?
9. Industrial science as a part of the high school curriculum.
10. Some method of cooperation between experiment stations and schools of domestic science.
11. Domestic science in farmers' institutes.
12. How can domestic science help the woman who does her own work?
13. Simplified methods of housekeeping.
14. The discussion of technical details in the conduct of the home which may lead to some agreement on definite and approved methods.
15. Standards of living as affected by sanitary science."

These topics indicate the high aim which the Lake Placid Conference set from its very beginning. A glance through its

first annual report confirms the feeling that the leaders of this movement were wise and far-sighted in no ordinary sense. Some quotations from this report may make this more plain. One speaker said: "Those who can make the home all it should be will get nearer the foundations of life than even the teachers, ministers and educators. People have money enough but do not know how to spend it. Life to most people is the supreme concern, and through sanitation and improved methods of living it is possible to lengthen life materially and make the home a better and happier place."

How we came to have the name "Home Economics" is indicated by this: "A general name, simple yet comprehensive enough to cover sanitation, cookery and kindred household arts, and instruction in the art or science of living from the kindergarten to the college, was not an easy thing to find. After a full discussion there was agreement on the name 'Home Economics' as the title preferable for the whole general subject, and it was determined to consider it as a distinct section of the general subject of economics, so that it should find a logical place in the college and university course and not be confused with the mere 'Household Arts' often taught under larger names. The latter, however important practically for the general public, could never expect to be recognized as a part of the university curriculum. While home economics was taken as a general term, it may be wise to use other phrases for its sub-divisions; domestic economy might be appropriate for lessons for the younger pupils; domestic science might be applied in high schools where foods and house sanitation can be studied by scientific methods, while household or home economics would be suitable for college courses."

The question of the preparation of young women for higher leadership was discussed and "the necessity for trained women as leaders of public sentiment was emphasized by several. It was recommended that the trend of the college curriculum away from the home should be brought to the attention of the colleges; that they should be shown the important relation of home economics to the individual home, and that there might be made a new profession commanding adequate compensation."

The household itself, for whose betterment the conference met, was not forgotten, and Miss Parloa presented a paper on "How

Can Domestic Science Help the Woman Who Does Her Own Work?" Other subjects which came in for discussion were: bibliographies of home economics; domestic science at farmers' institutes; the kitchen garden as the means of training small children; social betterment through domestic training in the tenements; the work of the United States Department of Agriculture and the encouragement of household arts and home economics by state legislation. One of the evening lectures at the conference was on "Standards of Living," by Mrs. Richards, who presented the view so well known now in her book of the same title. This was the first of those annual addresses by its chairman which helped to give the conference broad views of the field in which its useful activities were gradually developed. Perhaps the aim of the conference and the aim of the new association cannot be better stated than in a phrase which appears in the first report: "It is to become a kind of clearing-house for all the schools and teachers of home economics." One could only wish to include in the definition the professional worker in the home and institutional household, and all, whether students, scientists, or practical persons, who are interested in the improvement of living conditions.

The form in which the first conference took its rise, a meeting arranged on personal invitation, was perpetuated as the most useful basis of organization for the stage of progress which home economics had then reached. As the first report puts it: "As the purpose of the conference is to work through existing agencies rather than to form an elaborate organization of its own, no time was wasted in preparing a constitution and by-laws." The officers of the first conference were continued for the next year and, save for a single year, the conference has laid the burden of its chairmanship upon one person, Mrs. Ellen H. Richards, the president-elect of the new association. Whatever the conference has accomplished through the ten years may be fairly ascribed to the leadership of this chairman and to Mr. and Mrs. Melvil Dewey, the hosts who entertained the conference year after year at Lake Placid. About them from the first was gathered and held a membership which included those prominent in various fields of home economics, and which in 1908, numbered two-hundred and two persons.

It is not possible to state all that the Lake Placid Conference accomplished in its ten years' existence. Some things are evident, however. It has been the chief rallying-point for students, teachers and professional workers interested in home economics, and has furnished an ideal opportunity for the exchange of ideas, the reviewing of progress, and the formation of plans for further advance. It has in its annual reports of proceedings equipped a treasure-house with statements of facts and theory upon which workers in the field will draw for an indefinite time to come. These are the two most direct results. Some of the more indirect results are equally obvious, as: the promotion of a literature of home economics; the organization of courses of study; the criticism of courses for the preparation of teachers; the bringing together of teachers in the "Teaching Section" of the Lake Placid Conference; the improvement of housekeeping both in the home and in the institutional household; the international exchange of ideas; the encouragement of research by the government and in the universities, and the promotion of an education, both lower and higher, which recognizes the home and would make wholesome living the common lot.

These, and numberless other tasks, the Lake Placid Conference has taken up and carried forward, and one may hope that they will in time receive their just and complete statement. Every worker in home economics will wish to possess himself of such volumes as are available of the proceedings of these ten Lake Placid Conferences, and it is to be hoped that at some not distant day, a suitable index of the ten volumes and a balanced summary of the results which the Conferences accomplished, may be made.

At its beginning the new Association may well pause to pay some due measure of praise to the guiding minds which have met in the Lake Placid Conference, and may rejoice that all these are lending their personal approval and hearty support in this new alliance.

THE WASHINGTON CONVENTION.

On December 31st, 1908, the Teaching Section of the Lake Placid Conference on Home Economics met in the McKinley Manual Training High School at Washington, D. C., for the program which had been announced on Domestic Art in secondary schools; the Section concluded its sessions with a brief report from the "Committee on Organization of an American Home Economics Association" and then adjourned, *sine die*, to reconvene immediately as a convention for the organization of the American Home Economics Association. On Thursday afternoon, December 31st, the outline of the constitution of the new Association was adopted and general officers were elected. Friday, January 1st, was given over to round-table conferences and committee meetings, and Friday evening, New Year's night, the delegates met at an informal convention dinner. Saturday morning the now officially constituted American Home Economics Association held public sessions at the George Washington University, and Saturday afternoon the delegates held a business session which completed the constitution, elected the remaining officers, and completed the work of the conference. Such in the briefest outline, was the conference at Washington.

For several years the members of the Lake Placid Conference on Home Economics had looked forward to the organization of a national or international association which might bring large numbers of interested persons into cooperation to advance educational and other measures for home betterment. The formation of the Teaching Section of the Lake Placid Conference in December, 1906, at Pratt Institute, and its meeting the following year at Chicago University, were expressions of this desire. Finally, at the Lake Placid Conference of 1908, held by invitation at Chautauqua, it was agreed that the time had come for the larger association; the name "American Home Economics Association" was tentatively adopted, and a committee on organization was appointed to draw up a constitution and working plans which were to be reported at the meeting of the Teaching Section of the conference at Washington, D. C., during the Christmas holidays. Dr. C. F. Langworthy of the U. S. Depart-

ment of Agriculture, was made chairman of the committee and other members were appointed as follows:

Isabel Bevier, Professor of Household Science, University of Illinois.

Mrs. Melvil Dewey, Lake Placid Club, Essex Co., N. Y.

Alice P. Norton, Assistant Professor of Domestic Administration, University of Chicago.

Adelaide Nutting, Professor of Domestic Administration, Teachers College, Columbia University.

Ellen H. Richards, Massachusetts Institute of Technology, Chairman of Lake Placid Conference.

Benjamin R. Andrews, Secretary, Departments of Domestic Economy, Teachers College, Columbia University.

Maurice LeBosquet, Director, American School of Home Economics, Chicago.

This committee undertook by correspondence, supplemented where possible by personal consultation, to draw up during the fall the frame-work of a constitution and by-laws for the Association. Two meetings were held by members of the committee who could attend and the views of other members as well as nearly fifty other persons were gathered by mail. The results reached were reported at the Washington meeting and after revision by the convention, became the basis of the organization formed.

Owing to the manner in which the new organization came about, through a committee of the Lake Placid Conference, instructed to report at the Teaching Section of that conference at Washington, there resulted the peculiar situation that two distinct organizations were represented in the meetings: the Teaching Section of the Lake Placid Conference, Thursday morning, December 31st, which as a committee of the Lake Placid Conference, was dismissed by the Chairman of the Lake Placid Conference at the close of the session; and the organizing body, the American Home Economics Association, which met Thursday afternoon for organization and became, in fact, the organization in convention for the remaining sessions.

One may speak here, also, of other features of the convention outside the regular sessions, which added much to the pleasure of the delegates. At the close of the Thursday afternoon session, a number of delegates visited the Neighborhood House in Washington and inspected an exhibit of industrial work which

was on display there. Thursday evening, an audience composed of the delegates and a large number of Washington people gathered to hear a lecture on Household Art by Professor Arthur Wesley Dow, of Teachers College, Columbia University, which was given in the auditorium of the McKinley Manual Training High School. Following this lecture, the delegates were entertained with a delightful reception at the McKinley School, arranged by the domestic science and domestic art teachers of Washington.

On Friday, many attended the public reception of the President, at the White House. Friday afternoon there was opportunity for visits about the city to schools and institutions, and for general sight-seeing. Friday night an informal dinner had been arranged for delegates at the Hotel Gordon; sixty-four sat down together in groups of four, at small tables, each presided over by a host or hostess who had been chosen from those prominent in the home economics movement. Mrs. Richards was unable to be present as she was detained at the meetings of the American Association for the Advancement of Science in Baltimore. She and Mrs. Abel sent their greetings, however, in the following telegram which was enthusiastically received: "Happy New Year to the new Society; may it celebrate its fiftieth birthday with the establishment of the new species of housewife." During the course of the dinner it had been arranged that the hostesses should move about, from table to table, thus giving all the delegates an opportunity to become acquainted with them personally. Doctor Langworthy had been asked to preside as toast-master and there were a number of informal speeches--by Miss Arnold, Miss Talbot, Miss Kinne, Dr. True, Miss Parloa, Miss Mulligan, Miss Stoner, Miss Berry and others. The secretary was able to announce at the dinner that the membership of the Association, at that time, stood at precisely seven hundred. One of the most pleasant features was the tribute which Miss Berry paid in a closing address to those who have led in the home economics movement.

A feature which many found helpful was the exhibit of work in household arts which had been prepared and placed on display at the McKinley Manual Training High School, under the direction of Miss Jacobs of the Washington schools.

MEETING OF THE TEACHING SECTION OF LAKE PLACID CONFERENCE.

The third annual meeting of the Teaching Section of the Lake Placid Conference was called to order at 10.00 a. m., December 31st, 1908, at the McKinley Manual Training High School, Washington, D. C., Mrs. Ellen H. Richards of Boston, Chairman of the Lake Placid Conference, in the chair.

Mr. Benjamin R. Andrews of New York, was nominated and elected as secretary of the meeting.

On motion, the secretary was directed to convey the greetings of the conference to the Secretary of Agriculture and the Secretary of the Interior, and to extend an invitation to them to be present at the Saturday morning meeting.

Mrs. Richards. It is just eleven years ago this month that there was wrought out the first program of a conference on home problems. The meeting did not take place until the summer, but it is just eleven years ago this January that the first conference was planned. The program was designed to consider the work from the theoretical and research standpoint as well as from the practical view of good housekeeping. We are extremely glad to find that the seed has grown. I often think that it takes 20 years for an idea to sprout, and I am sure we feel that the little seed has grown very greatly in the eleven years. That we can have such a gathering as this and meet for the purpose of transferring ideas from one to another, is a very great pleasure to us all. In order to have the meeting a success the local committee has made several very definite arrangements for you. Dr. Langworthy of Washington, will make the announcements.

Dr. C. F. Langworthy. The first meeting of the American Home Economics Association will be held in this room this afternoon. At the close of the session this afternoon a party of delegates will visit the Neighborhood House where an exhibition is in progress. An inspection of Centre Market which is a very interesting type of city market, will be made at 8:15 Saturday morning. We will also be very glad to welcome the delegates to the Office of Experiment Stations in the Department of Agri-

culture, where the Respiration Calorimeter is in process of construction. Dr. Winthrop Talbot has started in the neighborhood of Washington an outdoor school for boys and he will be very glad, indeed, to see any of the delegates who care to come in the afternoon of New Year's day.

Mrs. Richards. At the first meeting of the conference a most elaborate scheme, the first of its kind, was prepared as a basis for discussion of the teaching of the various branches of domestic art and science, and a committee appointed which has continued throughout the years since. Miss Kinne, of Teachers College, was chairman of that committee, and has been constantly at work on that scheme with the aid of very many of you who have been interested in it. The problem was so broad that the feeling grew that a summer meeting devoted to a great variety of subjects was not sufficient to thresh out the details, therefore three years ago we made the experiment of a Teaching Section devoted to this work, and Miss Kinne was asked to take charge of the Teaching Section, which position she has held through this, the third year. We are very glad now to consider ourselves as a Conference of the Teaching Section, and Miss Kinne will take the chair.

Miss Kinne. It certainly is a notable distinction for the Teaching Section that it should meet in Washington, our national center. It is a happy coincidence too that just at this time there is before Congress a bill known as the Davis bill which has to do with appropriations for developing home economics in the secondary and normal schools of this country. It is, I suppose, more than a coincidence that last summer at the general conference, the Lake Placid Conference as a whole expressed its interest in, and its approval of, this measure. It is also a great pleasure that we are to receive our welcome to Washington from a government official who is greatly interested in this bill and who will tell us something of its possible workings—Ass't Secretary Willet M. Hays, of the Department of Agriculture.

Secretary Hays. I feel that I can welcome you on the part of the administration of this great Government because the President is most particularly and most intensely interested in vocational education along all lines. I assure you that I can welcome you most heartily in the name of Secretary Wilson who has been the chiefest of the advocates of vocational training and of research to put vocational training on a good basis. I assure you

that I can welcome you on the part of the people of the public school system, and particularly of that splendid school for women and boys and girls in this building which has come to be in a way typical of what all of our cities are to do. The American people are going to welcome most earnestly the organization you are so splendidly inaugurating. You can not even now, as I believe, dream of what is to come to the women of America, and the homes of America, and the boys and girls of America, and to the fathers of America, through this organization to build up the vocation of home making.

I wish I had time to talk along these general lines, but time is short and it is more practical to talk about the Davis bill.

The Davis bill would provide in addition to the agricultural colleges now in the United States, three or four hundred agricultural high schools, one practically in each rural Congressional district. It would provide for each city a school of mechanic arts and home economics such as this school is growing into. It would provide that the teachers of our nearly one hundred and fifty State normal schools be trained, or at least a large part of them, to teach something of agriculture, mechanic arts and home economics. It would provide in addition to this a great extension of our State experiment stations, one added experiment station to each of these branch agricultural schools, or smaller agricultural colleges. Here is a provisional map of Minnesota under the Davis bill. It provides ten agricultural high school districts in the State, and it shows the proportional amount of money that would go to the cities in the different sections of the State for mechanic arts and home economics in schools like this McKinley Manual Training School. This bill provides that over the territory of the United States ten cents per capita be given to each State. That first for cities above 2,000 population, this may be used for schools something after the type of this McKinley High School; not providing simply mechanic arts and home economics for the technicians, but including provision for the boys and girls who now drop out of the primary grades and go unprepared into some vocation,—home making or some city industry. Then for the country population, including villages up to 2,000, it provides an agricultural high school practically for every ten counties and gives to them ten cents per capita on the rural population. It then gives one cent per capita to the State for its normal schools

to be divided among the several State normal schools. Then it gives one cent per capita for branch experiment stations associated with these agricultural high schools.

The higher secondary schools and the normal schools are the great sources of teachers for the lower schools. Often pupils go from the secondary schools to the normal schools for a short time, but we need so far as the country is concerned a system of county schools, county agricultural schools, that will reach the country population as the secondary schools in the cities reach all city people. We have already a great many consolidated rural schools; we must have more despite their cost. So far as agriculture is concerned and so far as home economics is concerned in the rural communities, 75 per cent of the problem lies in the consolidated rural school, and the schools for which provision would be made in the Davis bill would provide teachers for both agriculture and home economics. The greatest functions of these institutions will be to provide teachers for these consolidated rural schools, and if we have twenty in each county, in two-thirds of our counties we shall have something like thirty thousand consolidated schools each to have a department of home economics. These consolidated schools teach the high school subjects of the first and second high school years. Thirty thousand teachers of home economics and thirty thousand teachers of mechanic arts in the rural schools of this country will make America over.

Here is a plan for a consolidated rural school with its four or five room school building with a laboratory to be used alternately by the teacher of agriculture and the teacher of mechanic arts, and with 150 pupils, 130 of whom are in the grades and 20 of whom are in a two-year high school course preparing to go to the agricultural high school or the normal school. This would take care of four or five million of the farm boys and girls of America and if one or two hundred thousand then went on to the high schools we would have coming back not only those who can teach in these schools, but a group of people with additional standards of education who would be the leading farmers and the leading farm home-makers, who would carry this consolidated rural school to its completion; would see to it that money was raised and the teachers supported.

Here carry the idea out a little further. In addition to the ten acre school farm, establish at the center, in addition to the school, a church, and a creamery, and possibly a cooperative bakery and a cooperative abattoir to relieve the labor of the women somewhat on the farm and to make it less necessary to have the farm family, that greatest institution, that best rural institution that we have, drift towards landlordism and peasantry. Thus we will help give the people of the country that education which will enable them to so bind together the rearing of a family, the home life and the business of farming that they will own the land and be their own masters.

I was going to close, but I trust you will bear with me for a picture, a picture of the consolidated rural school with 65 acres for field crops, 5 acres for campus, farm buildings, and for the principal to reside on with his family for a long tenure of office. Then let the school be open seven or eight or nine months according to the community; let the older pupils, however, go to school only six months as has been proven wise in the agricultural high schools in Minnesota and Nebraska. During this six months give them considerable technical agriculture, mechanic arts, and liberally, agriculture and home economics, and during the alternating six months let the teacher spend four days of the week visiting among the farmers helping to make the work on the home place more attractive through education. That is the most wonderful kind of pedagogics. Bring into the school scheme the influence of the parents, and thus greatly increase the efficiency of the parents in their part of educating the boys. Then let the teacher of home economics the other two days use this same horse and buggy and visit the girls and mothers. Then once a week let the wagons that haul the children to school, bring these older pupils to school. Let them have somewhat of a gala day with their literary exercise, with their reports of their home work. Let them at this time take care of the horticulture and work this little farm. Have a county superintendent grown up from among these teachers, and an assistant county superintendent. Let your superintendent then plan so that this principal will not do the farm work himself but will require these boys with the help of the girls to do this work under instruction which will ensure that they are learning to do the manual arts well. Games and sports too might be carried on and be a cooperative influence;

and all these agencies would teach farm boys how to become leaders in the church, in social and political matters. It would teach them how to cooperate, to see how the projects of labor and capital are worked out for all the people.

Miss Kinne. I am most happy to express for this Conference to Mr. Hays and to our government, our most sincere appreciation of the heartiness of our welcome here. It seems to me to place us where we feel that we belong as part of the great National government. This is truly a National movement. It is not only a National but a world movement. We have a Japanese representative in this conference, a domestic science teacher from almost half around the globe; and this morning a registered letter came from the Philippines giving an account of the domestic science work over there. During a single week recently, a cablegram arrived from the Sandwich Islands asking for a teacher of domestic science, and a professor from the University of Rome reached New York city to inquire how we are teaching home economics in our secondary schools and colleges. We get word like this from all over the world. It is only two years ago that a teacher from Zululand wanted to take information to the Zulus. Here at the center of our own civilization I think we can really read the meaning of this whole movement. The progress into new conditions of life has come about at such a rapid pace that heretofore the necessary readjustment has not been completely made and we are all suffering ethically and physically. This home economics movement is part of the effort to consciously adjust ourselves to changed conditions of every sort and kind.

It is an inspiration to hear of the possibilities of thirty thousand teachers. Mr. Hays referred to twenty-three years ago; I wonder how many teachers here were here twenty-three years ago. Twenty-five years ago where did this work exist? There was a beginning of it in two of our agricultural colleges—Iowa and Kansas. In the east we find in New York and Boston a movement really endowed by philanthropic men and women outside of the school circle,—Mrs. Heminway in Boston and others in New York City making an effort to bring into the schools something in the form of practical education. We find a few single women, women alone, acting as pioneers, going out, giving lessons and talking home matters. We all remember the early work of Miss Maria Parloa, whom we have the good fortune to have with us

today. She can tell us more about our early history than any one here, and I know she appreciates how much this meeting means, how much this work has developed in twenty-five years until today we can feel that we now are a matter of government interest.

Our discussion this morning is confined to the secondary field. It is not that the Teaching Section of the Lake Placid Conference does not consider the elementary field of as great consequence as the secondary, but it certainly is true that at present there is a most extraordinary development in the secondary field. There is not only an increase in the work, but of the quality and kind of work. Certain States are introducing the work into the secondary rather than into the elementary schools. This is true of Illinois. The University of Illinois has been most helpful to the whole State in helping to form a syllabus which is practically adopted by the secondary schools of Illinois. We find single schools growing here and there, as for instance, the Technical High School in Cleveland, the Springfield, Massachusetts, High School, the School of Practical Arts of Boston, the Washington Irving High School in New York. A most interesting movement in New York has been initiated by the schools themselves, and not invited by the teachers of home economics. There is a committee appointed to revise the secondary school syllabus for New York City, and some one has been especially detailed to investigate the whole question of teaching of household science with a view to making it a course that could be adapted to the secondary schools of New York. In California, too, the work is developing in the secondary school.

I have been asked, why is the discussion limited to domestic art? I believe that we all realize the more or less artificial distinction we have made between domestic science and domestic art. The domestic science subjects seem to center around food, or the study of the topics of food, nutrition, hygiene and sanitation. The question of textiles, clothing and household decoration and furnishing, have generally been included in domestic art. Since that question has been asked, it does raise the inquiry, is it not time in our secondary schools to develop a unity between these subjects? That does not mean that any one teacher could teach them all. It means that we must get greater unity, we must give to all our pupils something of the same thought.

Therefore, I think it is very fitting this morning to devote ourselves to the textile side of the household arts. Mrs. Woolman of New York, Professor of Domestic Art in Teachers College, will take charge of the program.

Mrs. Woolman. Domestic art is the younger child and perhaps should be heard occasionally at least. Domestic science began earlier, and while there was sewing in the schools, at the same time, the whole subject of domestic art had not been really developed. As the subjects of the household arts came to be taught in higher institutions, specialization separated off the textile interests from the food interests, and so we had domestic art. This separation, however, has only to do with the more advanced education, and not really with the high school. The girl does not recognize that domestic art is different from domestic science. Both are concerned with the management of the home.

Within the last few years I have been abroad several times; eight months in England, six months on the Continent, six months in France, and six months later in Germany, looking into the work of women. These countries have well waked up to these subjects and to the tremendous importance of training the women to a scientific understanding of the home. Therefore, it is well that we are gathered together in session to see what can be done to press forward.

I am very sorry this morning to have to announce that Miss Anna Hedges, Superintendent of the Hebrew Technical School for Girls, New York, will not be able to be with us and give her paper on Domestic Art in Secondary Schools. Miss Anna M. Cooley, of Teachers College, is here and will discuss "The Organization of the Subject Matter of Domestic Art."

Miss Cooley then gave an address, illustrated by charts, which is printed elsewhere in the JOURNAL.

After Miss Cooley's paper, Mrs. Woolman requested Miss Crooks, who has made a special study of the textile field in relation to education, to discuss this subject.

Miss Crooks. Textile study seems to me to bear a fundamental relation to domestic art. I shall speak only of instruction in the economic values of textiles. The great work that has been done by the pure food laws in this country has called attention to the lack of any market standards in textiles. We pay money for goods and know not what we get. You ask for wool, and the

price is one dollar, and there is no guarantee that there is even one-quarter wool in the goods. You are perfectly hopeless and helpless. The merchant is responsible, you presume, but if you subject that material to test, you may find it all wool, and you may find it as I have often found it, one-quarter wool, and yet you pay the price for pure wool. In my investigations I have found a great necessity for textile standards, and I have also found that the chemical work necessary in tests is of great value and interest to the students. All students are interested in doing something that gives results and students who have had academic chemistry will go on and take up the investigations in textile materials. But besides this there is the field of textile tests for the householder, which can be reached by students who have had little chemical preparation and which will make the textile work of great interest. In these investigations I have found that the testing of ordinary cotton materials, the testing of lace, the shrinkage of lace, the testing of woollen by burning and by various chemicals, are all simple things which can be brought into the regular high school work and which will give a thought-content to the hand work with textiles. It not only gives thought on the chemical side, but it gives it on the economic side by teaching the girls the value of money and teaching them how to spend it. With the teaching of textiles, will also go the consideration of values in house furnishings, for instance, the value of different carpets, and the adulteration of the tapestry Brussels carpet. In this effort to standardize materials we have already found that there is quite an interest among manufacturers who say that they wish to sell good materials because the people are getting tired of the materials that wear out so quickly.

Laboratory work in textiles seems a logical division of domestic art for consideration in the college curriculum. We hope in the course of time that the colleges throughout the land will equip laboratories for domestic economy as well as for natural science. In order to secure that, we must show for our work that it has a value in thought-content as well as in practical results, and it seems to me that this laboratory work which can be carried on in textiles is going to be a bridge that will help us. It will also bring about the union between domestic art and science which we hope for. How far this can be done remains to be seen. Certainly it adds another burden to the already burdened domestic art

teacher, but I feel that anything to be really practical, must have some solid foundation. You cannot simply teach sewing and expect to have that recognized for college entrance or as a college subject; you must be able to claim for your work that it has a valuable thought-content, as well as a practical result and that each is essential to the other.

Mrs. Woolman then called upon the following persons who continued the discussion of domestic art:

Mr. Manny, teacher of Art in the McKinley Manual Training High School of Washington, D. C., spoke on the training of good taste, and its application to textiles.

Miss Jenny Snow, of the University of Chicago, spoke on household art instruction in the University High School.

Miss Mitchell of the University of Chicago, urged the need of broadly trained teachers in all divisions of the household arts.

Miss Speller of the Technical High School, Springfield, Mass., explained the results attained in the household arts course of study in this school, especially in improvement in taste, in personal neatness, and in practical skill.

Miss Flint of Ohio State University described the two courses, in textiles and in design applied to house furnishings, given in the Domestic Art department in that University, both of which are correlated with instruction in fine art.

Miss Hill of Howard University spoke of the changing conditions of home life and the need of supplementing home experience by school instruction in the household arts.

Miss Snow, of Pratt Institute, urged that Domestic Science and Domestic Art are fundamentally one subject and must be so regarded.

At the conclusion of the program on domestic art various announcements were made and the Teaching Section adjourned to meet for a brief session in the afternoon.

Concluding Session of Teaching Section:

Mrs. Richards, in calling the afternoon session to order at 2:30 P. M., announced that an invitation had been extended to the Association to join in the Imperial National Exhibition in London. She explained that the preliminary organization of the new Association had been carried out by a Committee acting under the authority of the Lake Placid Conference; that the Committee was ready to report and that its report,

while formally presented to the Teaching Section, should go to the organizing convention of the new Association. The report of the Committee on Organization of the American Home Economics Association was called for.

Dr. Langworthy, as Chairman of the Committee, read from the Proceedings of the Lake Placid Conference of July, 1908, the sections bearing upon this subject and upon the appointment of the Committee of Organization, as follows:

"The Committee on Organization brought in the following report which was adopted:

"The Committee on Organization beg to report the following resolutions:

"1. Believing that a broader organization of those interested in home economics is desirable, the Committee recommends that steps be taken for national organization which shall take into consideration the Lake Placid Conference and any similar bodies, with the idea that the organization may profit by their experience, counsel and guidance.

"2. It is recommended that home economics groups be started in different states to work for the cause in order that the organization may grow rapidly.

"3. It is recommended that each member pay annual dues to the organization and that the organization publish a journal, the question of the amount of such dues, the cost of the journal and related matters, being settled later.

"4. The organization particularly desires the help of teachers and it is recommended that an effort be made to enroll as many teachers as possible who are interested in the various subjects which are included in home economics.

"5. A name which is national in character is needed for the organization and such a name as 'The American Home Economics Association' or 'National Home Economics Association' is recommended.

"Women's clubs have grown to be a very important factor in American life and as very many such clubs devote, at least part of their time, to the study of home problems, their co-operation in the proposed organization is important. It is therefore recommended that special efforts be made to interest the women's clubs in the organization through groups formed for that purpose.

"It is recommended that a committee be appointed to report at the meeting of the Teaching Section of the Lake Placid Conference in Washington in December, 1908, on ways and means for carrying on the new organization. The Committee believes that, for success, it is essential that the movement progress slowly and surely, but they also believe that it should progress rapidly enough so that all who are interested may, as soon as possible, enjoy the results which such definite organization should bring."

Dr. Langworthy reported further that the Committee on Organization appointed by the Summer Conference had held two

meetings in New York of such of its members as could conveniently come together, and that the views of the other members and of many additional persons had been obtained by correspondence, and that upon this consensus of opinion, a constitution for the proposed society had been drafted which the Committee was ready to submit; further, that the Committee had obtained the names of over 600 persons who wished to join the new Association as charter members.

The report of the Committee on Organization was accepted for the Lake Placid Conference, and on motion, the Committee was dismissed with a vote of thanks for its work.

The Chairman recommended that some provision be made for publishing the report of the Teaching Section and, on resolution, it was voted that the report of the addresses and proceedings of the Teaching Section be turned over to the new Association that the record might be preserved, and it was further voted, that the Teaching Section be discharged as a Committee of the Lake Placid Conference, with an expression of appreciation for the work accomplished and of the hope that its plans for the advancement of home economics education may be carried on by the new Association.

The Chairman declared the Teaching Section discharged as a Committee, and, on motion, the Lake Placid Conference was adjourned *sine die*.

A Club at Cranford, New Jersey, has presented the following subjects at their meetings this year: "How to live within one's income," "Sanitation in the home," "Personal and household hygiene," "A Dutch market," and "Systematic Housekeeping."

Home Economics The Home Economics Association of Greater New York in New York City was organized at a preliminary meeting, November 21, 1908, at Greenwich House Settlement. The gathering was addressed by Dr. Ira S. Wile on "The Domestic Science Teacher in the Anti-Tuberculosis Campaign." Formal organization was effected at a second meeting held at the American Museum of Natural History in connection with the Tuberculosis Exhibition, December 12. This meeting was addressed by Dr. Thomas D. Wood on "Diet in Tuberculosis." A third meeting, was held at Columbia University, February 5, when Dean Russell of Teachers College spoke on "Practical Training in Home Economics." The next meeting will be March 5, at Pratt Institute. All home economics teachers and workers near New York are invited to join this local Association. The fees are fifty cents a year.

ORGANIZATION AND FIRST MEETING OF AMERICAN HOME ECONOMICS ASSOCIATION.

A meeting for the organization of the American Home Economics Association was held at 2.45 p.m., December 31, 1908, in the McKinley Manual Training High School, Washington, D. C.

On motion of Mrs. Mary E. Williams of New York City, Dr. C. F. Langworthy was nominated and duly elected chairman of the meeting for organization, and Benjamin R. Andrews was, by similar action, chosen secretary.

Dr. Langworthy. The first step which the meeting should take, is the adoption of the constitution because without a constitution we cannot have a formal existence. You have been informed how the constitution, of which the secretary has a draft in hand, has been prepared. I will direct the secretary to read the constitution as a whole and then we will consider the wishes of the meeting as to its adoption.

The draft of the constitution was read; then on motion, it was voted to consider the constitution and take action upon it, section by section.

The sections of the constitution determining the name, object, membership, general officers, meetings and journal of the organization having been adopted, it was voted to lay the remaining sections on the table until Saturday's meeting. The chairman declared the election of officers the next order of business.

Miss Josephine Berry of DeKalb, Illinois. It is recognized by us all that there is but one choice for our first president. I move that Mrs. Ellen H. Richards be declared the unanimous choice of the Association for president. The motion was seconded, unanimously carried, and Mrs. Richards was declared the president-elect. Mrs. Richards took the chair for the remainder of the meeting.

On motion, the president was directed to appoint a committee on nominations and the president appointed as members: Miss Anna Barrows, Miss Bertha Terrill and Miss Ellen Huntington.

While the committee withdrew, Mrs. Richards presented a paper by Thomas C. Cooper of the Minnesota Agricultural Experiment Station, on "Cost of Living in Rural Minnesota."

On motion, the secretary was directed to express to Mr. Cooper, the thanks of the Association.

The committee on nominations reported the following names for general officers: First Vice-President, Miss Isabel Bevier of the University of Illinois; Second Vice-President, Dr. C. F. Langworthy, Washington, D. C.; Third Vice-President, Miss Mary Urie Watson of Macdonald Institute, Guelph, Ontario; Secretary-Treasurer, Benjamin R. Andrews of Teachers College, Columbia University.

On motion, the secretary was instructed to read a ballot bearing these nominations and they were declared duly elected.

The committee on nominations was instructed to report the nominations for the remaining offices at the Saturday afternoon session.

On motion, the president was directed to appoint a committee on by-laws to report at the Saturday afternoon session. The president appointed Miss Nutting, Miss Marlatt and Miss Talbot as the committee.

On motion, the president was directed to appoint a committee on legislation. The president appointed Miss Mary Snow, Mr. LeBosquet and Miss Talbot.

The president made the following announcements:

Thursday evening, December 31, an illustrated lecture on Household Arts will be given in the McKinley Manual Training High School, by Professor Arthur W. Dow of Teachers College, Columbia University.

Following the lecture, the domestic science and domestic art teachers of Washington will receive the delegates.

Friday morning, Round Tables on Domestic Art, Domestic Science and Household Management will be held at the Hotel Gordon.

Friday evening, at 6.30, an informal dinner of delegates will be held at the Hotel Gordon.

The session adjourned until Saturday morning.

Morning session, Saturday, January 2, 1909.

The Convention was called to order at the George Washington University by the President, Mrs. Richards, who spoke as follows: Ladies and Gentlemen:

The papers on the Darwin celebration in Baltimore yesterday, gave many illustrations tending to a hopeful outlook for further progress in the living conditions of the human being. One illustration was that of a fertile field when it by some need had been flooded with water and for years had presented a dreary

waste so far as vegetation was concerned, which drained of the water immediately showed signs of life in the *dormant seeds which sprang into full life*, and the once disused swamp became again a flowering garden, showing the *persistence* of inherited and individual characteristics.

At present we feel that our homes are covered with a flood of commercial ideas. When these are drained off we have full hope that the best kind of home will emerge. Again, the eyeless fishes found in caves have degenerated because they have stayed under these conditions of darkness. Their neighbors who made their way out *in time* have developed normally. The lesson is that we should *get out* of the degrading conditions before we are trapped by the changes, mechanical and social which are coming upon us.

Every company of agitators in convention assembled claims to have the most important topics to present, but this group gathered today under the auspices, we might almost say of the Father of His Country, in sight of that shaft of light and hope which must mean to all of us faith in the future, this group really *is* dealing with the life of the nation.

For we can not have a free country without homes of nurture for citizens, we cannot have homes without ideals and very few of us can maintain ideals on bread and water with bare boards and worn out clothes.

Physical comforts may smother ideals, if excessive, but the law of progress demands at least enough physical well being to allow of freedom from galling tyranny of daily want.

In this country we have wealth and opportunity, but our ideals seem to be sadly mixed, or wanting altogether. "Home is where I hang my hat" says the boy, "Home is where my dishes is" says the girl of the tenement district. Nomads we have become with barbarian habits rather than with American ideals.

Nine-tenths of the money spent is said to go into the so-called homes of the land—with what result? The family home in which every inmate has a share is fast disappearing, selfishness rules from prince to pauper. The inventor who can induce a quarter of the housewives to buy his potato parer makes a huge fortune and one-seventh of the potato goes to the pigs. This is the way the cost of living rises.

Something new every month, some change keeps men, woman and child in a watchful, restless condition. So long as the family home afforded a refuge for ten or twelve hours in the day this effect was not noticeable, but today there is no longer peace or rest in the family shelter (roof they have none, only another family over them).

Home economics demands a study of ways and means to maintain a training school for good citizens at a cost within the reach of all. It is not so much money as ideas and ideals we need. Can a young man marry on \$1000 a year with a reasonable hope of success in his venture? It depends on the ideals they both have and what a home means to them and on their sense of values.

This sense of what is worth while in living is to be insensibly cultivated in school for the great majority who have not the right kind of homes and it is in these lines of what is worth striving for that we need just such an authoritative association as we are forming. We are stemming a tide. I hope we are not sweeping back the ocean with a broom—an ocean of fashion, of commercial exploitation, of mercantile temptation. We need to band together and reinforce each other. Like the newsboys we need something to shout in the streets to attract attention and if we say it was done in Wyoming it will attract attention in New York and Boston quicker than if we said we had done it there, while Iowa and Nebraska are listening for suggestions from Philadelphia and Washington. Such is human nature.

The subject has so many phases, embraces so many arts and sciences that it is discouraging to the beginner in the work and especially so to the school man who is waylaid with a demand for thousands of dollars for what he firmly believes should be still taught at home. We need to come together and agree upon an orderly progression of subjects which react upon the character of the child as well as give him facility with his hands or impetus towards habits of right living.

A great step in humaniculture is made when people from different sections agree on the fundamental child and his needs. This gives something to work from into special lines.

It is evident that the beginning must be made early and that each step must follow a well placed previous one in order that time be not wasted and lessons contradicted. I verily believe that a chief reason why our education is so confessedly ineffective

is because the mind is distracted by so many attempts to direct its attention now to this, now to that.

Home economics aims to focus all on daily living, doing one's duty at the time and not looking over one's shoulder for a gift. To revive the pleasure of doing *well* what is done, and perhaps, more than all to give a belief in the nobleness of this body of ours without which the soul cannot express itself and so show that money and time are well spent only when they minister to a fuller development of both.

Mrs. Richards. We have the great pleasure of listening to words of wisdom from Dr. Elmer E. Brown, Commissioner of Education of the United States.

Commissioner Brown. Madam President, Ladies and Gentlemen: The Secretary of the Interior, Secretary Garfield, who is very warmly interested in our educational work, has been desirous of accepting the invitation of the Association to come and say a few words before you this morning. He has recently telephoned to me, however, that his work is crowding him so much this morning that it is extremely doubtful whether he will be able to come in. He will do so later in the session if it is possible for him to do so. I know the very warm interest that Secretary Garfield feels in our educational work generally, and am sure that if he could find it possible to come to this meeting he would do so.

I think we are pretty generally agreed that our educational work has been too much concentrated upon that which is bookish. If we divide our educational field in the rough we would say that our education has to deal with the body, and the intellect, and the things moral, things of value. Roughly speaking, we find it convenient to divide it off in that way. There can be very little doubt, I think, that the most of our schools traditionally have concentrated their work upon the second of these three terms. They have devoted themselves to that which is intelligent, that which is bookish, and since it is easiest to continue that which is once begun, have gone on doing work of that same kind instead of seeing clearly the essential relationships of that intelligent work with the soundness of the body on the one side and the soundness of the moral life on the other side. There is no one thing that is more characteristic of the newer educational methods in this country than the attempt to get the school to reach out to those territories that are outlying territories, viewed from that purely

intellectual point of view. It is a significant fact that our more recent educational movements are taking much more adequate account of the body on the one hand, and of the supreme concern of human life, or moral life, upon the other hand. I feel an especial interest in the work that you are doing here for the reason that it seems an effective way of reaching out from that traditional center of our educational work, or our scholastic work, and making really effective connections with the interests of our physical life on the one hand, and the interests of our moral life upon the other hand, and so I look upon such a meeting as this as closely related to such a meeting as the great Tuberculosis Congress that met here in Washington some time ago. A very large part of the propaganda that is now undertaken not only for the prevention of tuberculosis, but in a much larger way for the prevention of diseases, and the positive building up of health in our American citizenship, a very large part of that propaganda can be most effectively worked out through the Home Economics Association. You are doing something in a very positive way to make the home life better; are preparing for some of the most effective of the possible efforts for the improvement of the health of our people. I do not think that that side of your work is to be ignored. I do not think that in reaching out for the things that are larger and better and more significant, you should forget the fact that the simple work in good cookery and in home hygiene, that constitutes no small part of your interests, is of tremendous consequence for our American home. For we want not only to have a citizenship in this country that is free from disease, but we want to have a citizenship that is positively strong and vigorous and prepared for the severer tests that the twentieth century is going to put upon our bodies. And so the work that you are doing here upon that side seems to me of great significance for our education, and all significant for our National life.

I cannot help thinking that the really great significance of your work, after all, is moral. Your meeting here really finds its warmth of interest in the fact that such work as you are planning for is the work of making more attractive and wholesome homes—is a work that is going to uplift the moral life of our people. You cannot stop short of that highest consideration, and you do not wish to stop short of it. It is very clear, I think, that some of the gravest dangers that threaten the moral life of this people,

not only of our individual citizens, but the moral life of our body politic, are dangers that have to do with the readjustment of the home to modern conditions. Whatever you shall do for the making of a better home life is going to be an effective agency of correcting this dangerous tendency in our American life. You are going to make it possible to make more comfortable homes, to make more attractive homes. All that is significant. But you are going to do vastly more than that. You are going to make the home life interesting. You are going to make the very question and problem of making a good home life a thing in which the people in the home will be interested. I have never seen people who were thoroughly interested in seeing how good homes they could make, follow it to such an extent that they had to seek the divorce court. To get heartily interested in the making of the home life! That of itself is a moral safeguard, and in furthering that kind of interest you are doing the work for which our whole country should thank you. /

I should be very sorry to believe that such work as this meant an abandonment of the intellectual fundamentals of education which had their beginning in scholastic endeavor,—a going out from the intellectual center of our school life to the physical side and the moral side, and forgetting that from which we started.

As I understand your work, it is nothing of that sort, but the very significance of your work, to begin with, consists in this, that you are putting ideas, and organized ideas, into this work of making good homes; that is, you are proceeding organically. I wonder if, in your excursions into the psychology of your subject, you have even yet wrought out the full significance of this fact, that people are interested in doing the things that they can do well, and the things upon which they really exercise their minds, the things that have in them ideas and skill that the persons concerned are able to exercise. These things become exceedingly interesting. I have known young people who would night after night make fudge with the greatest of interest, because fudge was the one thing that they knew how to cook. But I have known other people who made a good many other things with the keenest sort of delight because they knew that they could make them well. / The mere fact of having confidence in one's ability to do the things well is a significant fact. Now,

when you couple with that skill in doing things, enough ideas so that one feels that one is really taking part in the intellectual life of his time while he is doing ordinary and simple duties, you have one of the strongest pedagogical combinations. To put ideas and the real possession of skill into the making of a better home life, that is an ideal that you have before you in a way that is of great significance, and I am sure that all who are interested in the educational work of this country wish you well—wish you the largest measure of success in your undertaking.

Mrs. Richards. We all appreciate what the Department of Agriculture has done and the help that they have given us in their bulletins and in their scientific investigations. There is no other department of the government that has begun to meet the needs of teachers of Home Economics as the Department of Agriculture has, and I am sure the people here will be very glad to hear a few words from Dr. True who has been our most constant and earnest friend.

Dr. True. Madam President, Ladies and Gentlemen: I am sorry that I am somewhat lonesome here, as a representative of the Department of Agriculture, this morning to hear the kind words which Mrs. Richards has spoken concerning our work. I had hoped that Mr. Pinchot, our forester, would be here to keep me company and to speak to you, because I know that he has very great interest in the work that you are doing, and I am sure he would have an important and interesting message for you. He would have been here today had not President Roosevelt called him away to perform another duty which seemed to be urgent.

Honored as I have been with an invitation to speak at the first annual meeting of the American Home Economics Association, I have come, I trust, with some appreciation of the importance of the enterprise in which you are engaged.

It has been my fortune to go up and down this country for a number of years, and thus to see something of the development of this movement. And so, when I come to speak to you this morning it is easy for me to see back of this assembly here the seven hundred teachers and other people who have agreed to join your organization, the great group of universities, colleges and schools in which the subjects that you are interested in are taught, the thousands of children and young people who are receiving instruction along these lines, and the great mass of

intelligent people throughout the country who are desiring more and more accurate and helpful information which will enable them to make better homes.

This is indeed a great movement, and one that is growing rapidly, and yet it has lacked those elements of coherence and coordination which I think are very necessary to its best development. It has been thus far largely a local and concentrated movement in which people here and there in the different communities have engaged. And, therefore, it is a matter of great importance that you have come together here at this time to form this National organization, so that this great movement may have a rallying point, a forum for the discussion of great problems involved in it, a means of bringing all the widely scattered groups of workers together in sympathy and in mutual helpfulness. It is true that you have already had the influence of the Lake Placid Conference, and I have known something of the usefulness of its work. But I have felt that it could never take the place that can easily be taken by this organization, because this great movement spreading out through all our country needed a public association broadly supported to carry on the great work of a central organization. And it seems to me that you have chosen for the formation of this organization an unusually auspicious time, for we have come, in this country, to one of the great critical periods in our history. I doubt whether any of us appreciate as fully as we ought the nature and significance of these passing days.

There has been reference this morning to the great celebration yesterday at Baltimore of the Centenary of Darwin's birth. If you had come to this city a hundred years ago you would have found here an undeveloped capital of an undeveloped country, a weak nation, drifting apparently into what might be a fatal conflict with the mother country. If you had come here fifty years ago you would have come to the half-developed capital of a half-developed country, a nation rent with internal strife and drifting apparently into dismemberment and ruin. Since then we have had a period of unexampled development and prosperity. The nation has grown rich and strong and united. It has not only developed its own resources with astonishing rapidity, and filled its territory with great multitudes of people, but it has stretched out and brought within the protection of our flag vast

regions in the frozen north and in the warm tropics. It has brought under our influence great multitudes of alien peoples of numerous nationalities and races.

We have seemed to be at the high-tide of prosperity and influence, but right in the midst of this there has been struck by our wise men a note of alarm. At this very time when you are met here to form this organization our people, led by their greatest men and women, have become suddenly serious and thoughtful, and even fearful of the future. We have piled up wealth almost without measure, but now the question has arisen whether this is simply that this great wealth shall come into the hands of a few people and be used for the corruption and the ruin of our National life. We have brought together under the best influences in many ways great masses of people, but now the question has arisen whether we can maintain among these people a good home life. We have used our national resources and developed them with great skill, but now the question has arisen whether we are so rapidly using them up that they will all be gone within a few years.

What is done among us in the next few years will, therefore, be of the very greatest importance as determining whether we shall go on as a nation to greater success or enter upon a period of decline and fall.

Among the questions that are engaging our thought and attention today, certainly none is more important than that which centers about the problems of our homes. Can we maintain them as the pure source and happy environment of a vigorous childhood; can we keep them as the satisfactory supporters and encouragers of manhood and womanhood; can we hold them as the sure solace and refuge of old age? Shall the American home go on to greater perfection or shall it weaken and lose its hold upon our people? Shall we become simply a vast mass of unrelated individuals? It is this problem that your Association and the people whom you represent have especially taken as your work. Not that you are the only organization engaged in this work, for there are many others which are doing noble and useful work. But as you represent very largely the educational element working for the solution of the problems of the home, there is every reason why your organization should take a leading position in the effort to help our homes. For, under the care of the colleges

and schools of our country are to come the young people who are to be leaders in whatever movements or whatever organizations there may be to deal with these great problems. And so I think that it is very important that you should have met here at this time to form this organization, to plan its work, and to consider what may be done to broaden the interest of our people in this movement for the maintenance and betterment of the home.

If I might be permitted, I would like very briefly to suggest some of the lines of work which, it seems to me, it would be well for you to engage in as an organization. I presume to do this because I have been for a number of years in quite close touch with this movement, though I have occupied, in a way, the position of an interested observer rather than of a professional worker in the cause.

It seems to me that there are three great lines of endeavor in which such an organization as this may properly engage: First, you may do much to promote the increase of knowledge of the subjects with which you deal; second, you may do a great deal to help and improve the system of education along these lines; and in the third place, you may do a great work towards securing the more satisfactory diffusion of information on these subjects among the masses of our people.

In this movement, as in all similar movements, the fundamental requirement is exact and satisfactory knowledge of the subjects involved in the movement. Research, then, should be prosecuted in a vigorous and comprehensive manner, in order that we may know the truth, and that that may be the basis of all our endeavors. Thus far there has been very little of accurate, strong and comprehensive research along these lines, and the agencies for such work are extremely inadequate. Most of the work that has been done has been done incidentally in connection with other enterprises, and the interest of the workers has been largely a divided interest. We need, therefore, to have public and private funds which may be devoted earnestly and exclusively to definite researches in the field of home economics, and I certainly hope that this organization will undertake to help in securing such funds and the establishment of adequate research agencies along these lines.

Then the system of education in home economics is only in its formative stage. The lines and methods of work have only

been roughly blocked out as yet. There needs to be much study and much effort to perfect this system, to give it high pedagogical value, to put it in a position to find its proper place in our general educational system. Such an organization as this can perform a very great service by undertaking and promoting definite studies for the perfection of instruction in home economics both in the colleges, in the high schools, and in the elementary schools.

Finally, we are coming in all lines of educational effort to see that it is not enough that we should have a satisfactory system of education for the people who go to school, but that we must reach out beyond the schools and by various methods, which are sometimes embraced under the general head of university extension work, reach the masses of people so that they may have some intelligent conception of what is involved in such matters as these you are interested in, and shall have brought to them some definite and satisfactory information which may help them in their daily lives. This in itself is a great enterprise, and it is one, which in this country, we have only begun in a very fragmentary and feeble way. It is true, we have a large number of organizations of various sorts—women's clubs, farmers' institutes, social settlements—but, after all, they have thus far only reached a very few people compared with the mass that need to be reached, and the information that has been brought in this way has been very inadequate and in many respects unsatisfactory. One thing that we have learned in the Department of Agriculture and in our agricultural colleges and experiment stations in recent years is, that we can not do what we ought to help the mass of our rural people by simply sending publications to them. However useful these may be, however well prepared and illuminating they may be, they, after all, will not make an adequate impression upon the average man and woman. To make the work that we are engaged in really effective, we must carry it out to the people through the living teacher, and that teacher must be provided with the means of actually demonstrating to the people the things that he desires to teach. And so we are having the organization of various kinds of demonstration work.

I have spoken of these three great lines of work because I think that through them your Association may find satisfactory and

stimulating means of building up a strong organization, and of doing a great and vital work for the benefit of all our people. You ought to be greatly encouraged by the interest that has been shown in this meeting and in the responses that you have had to your invitation to unite with you in forming this organization. It certainly gives those of us who are looking on and who are interested in this work very much pleasure and encouragement that you have started so well. We feel sure that it means that there is going to be so much interest and activity in this work that you are surely and rapidly to become a strong and useful organization.

Following Dr. True's address, the president called on Hon. Charles R. Davis, the author of the "Davis Bill" for extending federal aid to secondary education in agriculture, mechanics arts and home economics. Mr. Davis explained the origin of the bill and its general provision and urged the members of the Association to organize local support for it.

The president next called upon Mr. John Hamilton, Supervisor of Farmers Institutes in the U. S. Department of Agriculture, who spoke especially of the needs of the country home. He said in part:

John Hamilton. Before you can go to work effectively for rural betterment you must secure some kind of an organization in each community. You must get a few women together in these communities, and tell them what you are proposing to do for them. That has been done in some countries. In Ontario they have over four hundred women's clubs in the Province with a membership of more than 12,000. They meet every month and talk over the things in which they are interested,—their children, their home life, and all that. These clubs are doing wonderful things for the women of that Province.

Then you must have something to teach them. You cannot go before these women with generalities. Glittering generalities are often inspiring and all that, but these women need to know first of all how to do some things so as to lighten their labor, improve their methods and beautify their homes.

If you can simply go and tell country people how to put a bathroom into every house in the United States you will have justified your organization over and over again. They want to know how better to care for their children. They want to

know how to live themselves, how their intellectual and spiritual life may be best improved.

The help you are going to give them must be sympathetic and must fit their conditions; you must have information that is definite, appropriate and really helpful. If it is not all of these the meeting may be very pleasant and all that, but it is a waste of time so far as affording real aid to the rural housewife is concerned. This means you must first of all make a very careful study of country conditions. We do not seem to know what the actual conditions in the rural districts are and consequently we have a great Commission going all over this country trying to find out.

We are trying some of us to reach the country people,—the country homes. We find that literature does not do it. It takes a living teacher. How are we to get to the man we want to help with a living teacher and to the woman who is busy in her home who cannot go away to school? How can information that has been accumulating during all of these years be put into such shape as to be teachable, and be taken and explained to the busy country woman so that she can use it, even to the point of giving a practical demonstration in her home?

We have started to do that in the Department of Agriculture through what we call for lack of a better term, a Movable School, not a fixed school, but a school on wheels that comes into a community, and takes a dozen or fifteen women experienced in household affairs and puts them in a class with a thoroughly competent teacher in charge. One course of study has already been prepared that will take about a month to complete, in which the scholars will be taught a single subject, simply how to prepare cereal foods. We ought to have another course on teaching how to prepare meats; another in household architecture, decoration, sanitation and that sort of thing. These schools are intended to come and stay in a community for two or perhaps three weeks, organize a class of the brightest and best women in the community, and teach them how to do one thing and do it so well, that when the school leaves they will be able not only to follow for themselves the suggestions that have been made, but teach their less progressive sisters as well.

The points therefore that I have tried to present are: first, an organization of women in every community; next, something

appropriate and helpful to teach; and then, a school in which to teach it with an expert and sympathetic teacher in control. With such an organization in active operation in every State the problem of the betterment of country homes in the United States will be practically solved and the actual uplift of rural life in America will have begun.

The president next called on Mrs. Mary H. Abel of Baltimore.

Mrs. Abel. Those whom I have known in the Lake Placid Conference know how we have all worked toward the ends we see in sight this morning. Although that which does not reach an immediate and practical end is sometimes a failure there is, nevertheless, far reaching educational work which always has to be planned, and ten years ago when the Lake Placid Conference started, that fact was recognized. Though the immediate effect was not so great, nevertheless in the years during which the Lake Placid Conference was meeting, the forces were growing which are now at the basis of this great organization.

In attempting to aid in practical things we must remember the city woman as well as the country woman, for in many respects, her way has great difficulties. I feel that there are three things necessary in every large community: First, a laundry operated by experts where no injurious and destructive chemicals will be used; second, a cook shop, or a public kitchen, in which the basis of the meal can be bought ready cooked; third, an employment bureau in the hands of ladies and run for the benefit of the community and not to keep servants going from one place to another, but an employment office in which work can be gotten by the day and hour.

The president then called on Mrs. Olaf N. Guldlin of Fort Wayne, Indiana, Chairman of the Home Economics Department of the Federation of Women's Clubs, who spoke regarding the advancement of home economics among the 800,000 women in the women's clubs of the United States.

By motion, it was voted that a committee be appointed by the chair to visit the Secretary of Agriculture and convey the respects of the Association. The chair appointed Miss Emma S. Jacobs of Washington, chairman of the committee.

By motion, the president was directed to appoint a committee on resolutions of acknowledgment. Miss Maria Parloa was appointed chairman of the committee.

On motion, adjournment was taken until the afternoon.

Afternoon Session, Saturday, January 2, 1909.

The convention was called to order at 2.30 by the president, Mrs. Richards, who called for the report of the committee on constitution and by-laws.

Miss Marlatt, for the committee, presented the completed constitution and by-laws which were then read, section by section, and, after amendment in certain cases, were finally adopted by unanimous vote in the form entered herein at the end of these minutes.

The president called upon Professor Monroe of the Department of Chemistry, and Professor Veditz of the Department of Economics, of George Washington University who brought to the Association the greetings of the University, and spoke of the close relations between their departments of study and the subject matter of home economics.

The president called for the report of the committee on nominations for members of the council and for members of the permanent committee on nominations.

Miss Anna Barrows, as chairman of the committee, presented the report of the committee which, by motion was adopted and the secretary was directed by unanimous vote to cast a ballot for the persons nominated. The following were declared duly elected:

FOR COUNCILORS AT LARGE.

For one year: Miss Josephine Berry, Illinois; Miss Helen Kinne, New York; Miss Mamie Gearing, Texas; Miss Catharine A. Mulligan, Florida; Mr. G. A. Putnam, Ontario.

For two years: Mr. W. H. Elson, Ohio; Mrs. Olaf N. Guldlin, Indiana; Miss Emma S. Jacobs, Washington, D. C.; Miss Minna Stoner, Wyoming; Mrs. Mary Schenck Woolman, New York.

For three years: Miss Rosa Bouton, Nebraska; Miss Caroline L. Hunt, Wisconsin; Dr. Simon Patten, Pennsylvania; Miss Emma Smedley, Pennsylvania; Mrs. Mary E. Williams, New York.

For four years: Miss Edna Day, Missouri; Dr. George M. Kober, Washington, D. C.; Miss Abby L. Marlatt, Rhode Island; Dr. Lafayette B. Mendel, Connecticut; Miss Mary S. Snow, New York.

For five years: Mrs. Mary H. Abel, Maryland; Miss Sarah Louise Arnold, Massachusetts; Mr. Gifford Pinchot, Washington, D. C.; Mrs. Alice P. Norton, Illinois; Miss Ellen C. Sabin, Wisconsin.

Members of the Permanent Committee on Nominations.

Miss Ruth Wardell of Ohio, for one year.

Mr. Maurice LeBosquet of Illinois, for two years.

Miss Anna Laird, of Ontario, Canada, for three years.

Dr. Henry C. Sherman of New York, for four years.

Miss Marian Talbot of Illinois, for five years.

It was, on motion, voted that the executive committee be instructed to draw up and send to President Roosevelt, a letter expressing the appreciation of this Association, of all that he has said and done looking toward the improvement of the American home.

The president called for the report of the committee appointed to call upon Secretary Wilson.

Miss Jacobs. The committee presented the following verbal message to Secretary Wilson:

"The American Home Economics Association thanks you for your words of greeting and encouragement received this morning and regrets that official duties prevented your giving them in person.

The Association with its 700 charter members further thanks you for all you have done to help educate the home maker, and especially for the publication of Farmers' Bulletins and Bulletins reporting nutrition investigations, and other matters pertaining to home life.

The Association stands ready to cooperate with you in all wise measures having for their object Home Betterment."

The Secretary seemed very much pleased to receive the committee. He talked along the lines of the provisions of the Davis bill and the work that is to be done by this Association. He spoke about the work in the west, in the different sections of the south, but his main thought seemed to be that there are not teachers, and that we would have first to educate teachers before home economics could be introduced in a widespread way as, for example, proposed by the "Davis Bill."

The president called for the report of the Committee on Legislation. Miss Snow, as chairman, presented the report of the committee which, after amendment, was adopted unanimously as follows:

"Resolved: that this Committee heartily commends the general provisions of House of Representatives Bill, 18402, known as the "Davis Bill," for its attempt at equalization and extension of educational opportunities in agriculture, mechanics arts and home economics throughout the land, and urges that the active influence of the American Home Economics Association be directed toward the enactment of some measure looking to the carrying out of such provisions.

"Resolved: that the experimentation and research work in nutrition by the Department of Agriculture receive the encouragement and endorsement of this Association, and that liberal provision be urged for the publication of bulletins reporting such work."

The president called for the report of the committee on resolutions of acknowledgment. Miss Maria Parloa, chairman, presented the following report which was unanimously adopted:

The American Home Economics Association, in closing its first convention at Washington, D. C., December 31-January 2, 1908-9, extends its cordial appreciation to all who have contributed to making the meeting a success; especially to all who have taken an active part in the arrangements and proceedings of the conferences, namely,

1. The local committee, Dr. Langworthy and Miss Jacobs for their most satisfactory and agreeable arrangements for the comfort and pleasure of the visitors.

2. The Superintendent of Schools, Principal Myers and Miss Jacobs, for the opening of the McKinley Manual Training High School, for making arrangements and for attending to details of the meetings of the American Home Economics Association

3. Mrs. Neely of the Neighborhood House for courtesy of hospitality

4. Professor Dow for his attractive illustrated lecture on the Household Arts

5. The teachers of Domestic Science and Art of the Washington Public Schools for the delightful reception enjoyed by all present Thursday evening, December 31st

6. The National School of Domestic Science and Arts for the courtesy of opening the School for inspection

7. The authorities of George Washington University for hospitality in opening the building for meetings of the American Home Economics Association on January 2d.

8. Mr. B. T. Galloway, Bureau of Plant Industry, for the effective decoration at the McKinley High School and George Washington University during the meetings of the Association

9. Mrs. Henderson, through the Housekeepers Alliance, for her interest and delightful reception on the afternoon of January 2d

10. The various speakers, namely, Ass't Secretary Hays, Commissioner of Education Dr. Elmer E. Brown, Dr. True Director of Experiment Stations, Representative Davis, Mr. Hamilton Sup't. of Farmers Institutes, Professor Monroe and Professor Veditz, also to Mr. Gifford Pinchot for his message of regret at necessary absence on government duty

11. Miss Daish of the Office of Experiment Stations of the Department of Agriculture, for contributing a stenographic report of the sessions of the Association

12. Mr. McKee of Hotel Gordon, where the Association made its headquarters, for his personal interest in the comfort of guests.

By motion, at 4.30 p. m., January 2, the first convention of the American Home Economics Association adjourned *sine die*.

CONSTITUTION OF AMERICAN HOME ECONOMICS ASSOCIATION.

ARTICLE I

NAME

The name of this organization shall be the American Home Economics Association.

ARTICLE II

OBJECT

1. The object of this Association shall be to improve the conditions of living in the home, the institutional household and the community.

2. Specifically this Association shall aim to advance its purpose:

By the study of problems connected with the household;

By securing recognition of subjects related to the home in the curricula of existing schools and colleges;

By securing the establishment and standardization of professional courses and schools for the training of teachers, and of home, institutional, social and municipal workers;

By encouraging and aiding investigations and research in universities, and by the State and Federal governments;

By publications professional and popular, and by meetings local and national, that knowledge may be increased, and especially that public opinion may be informed and advancement made secure by legislative enactment.

ARTICLE III

MEMBERSHIP

1. All who are actively interested in home problems are eligible to membership in the Association, including:

All professionally concerned with this field as teachers of Domestic Science and Art, Home and Institutional Economics and allied educational fields, students, investigators, housekeepers, institution managers, social and municipal workers; interested housewives and homemakers; professional workers in allied fields, as educators, physicians, hygienists, sanitary experts, architects, and others; clubs, associations, societies and institutions interested in the work of this Association.

ARTICLE IV

OFFICERS

1. The officers shall consist of a president, three vice-presidents, a secretary-treasurer, an executive committee and a council.

2. The president, three vice-presidents, and secretary-treasurer shall be elected at the annual meeting and shall serve one year.

3. The council shall consist of three classes of members: (1) The five elected officers, as above specified; (2) twenty-five councilors-at-large, chosen at the annual meeting for rotating terms of five years, so arranged that five councilors shall be chosen each year after the first; (3) representative councilors, chosen for a term of one year, one from each local society, which includes in its membership at least ten paid members of the American Home Economics Association. Any local society having over

100 paid members in the American Home Economics Association shall be entitled to one councilor for each 100 such members or fraction thereof.

4. The executive committee shall consist of the elected officers and five councilors-at-large.

ARTICLE V

MEETINGS

1. There shall be an annual meeting of the Association at such time and place as the executive committee shall determine.

ARTICLE VI

JOURNAL

1. The Association shall issue a professional journal which shall be the property of the Association, and shall be sent to members as a privilege of membership.

ARTICLE VII

INCORPORATION

1. The Association shall become incorporated.

ARTICLE VIII

AMENDMENTS

1. This constitution may be amended by a vote of two-thirds of the members present at any meeting, provided that notice of the proposed amendment be given in due form, at the preceding annual meeting.

BY-LAWS.

ARTICLE I

ELECTION OF OFFICERS

A nominating committee consisting of five members shall be elected by the Association for rotating terms of five years, so arranged that one member shall be elected each year, after the first.

This committee shall prepare printed ballots subject to suggestion from members.

Election shall be by majority voting.

ARTICLE II

DUTIES OF OFFICERS

Section 1. The president and vice-presidents shall have the duties usually pertaining to such offices.

Sec. II. (1) The secretary-treasurer shall as treasurer give bonds for all funds intrusted, and shall submit annual reports of receipts and expenditures, with vouchers. Money shall be paid only on the order of the chairman of the finance committee.

(2) The secretary-treasurer shall as secretary, preserve the records of the Association; shall maintain at the office a library of books and pamphlets and other material relating to the field of the Association; shall endeavor to increase the membership of the Association, and shall develop its relations with affiliated societies.

Sec. III. (1) The council shall meet one day before the annual meeting and continue in session as necessary thereafter.

(2) It shall have supervision of the business of the Association and shall pass upon matters submitted to it by the executive committee.

(3) It shall elect from its members the five members who with the president, vice-presidents and secretary-treasurer, form the executive committee.

(4) It may fill for the year any vacancies which may occur in its membership.

Sec. IV. (1) The executive committee shall manage the business of the Association in the intervals between meetings. It shall appoint standing committees and fill such vacancies in office, with the exception of president, as may occur between annual meetings.

(2) It shall constitute the board who will hold the property of the Association, including the Journal, and be responsible for its publication.

(3) It shall arrange the time and place of the annual meeting.

(4) A meeting of this committee may be called at any time by the president of the Association. Five members shall constitute a quorum.

ARTICLE III

MEMBERSHIP

Anyone who is elected by the executive committee becomes a member upon payment of dues.

Members shall consist of four kinds:

(1) Annual—dependent on payment of dues, two dollars (\$2.00) at annual meeting. Failure to pay dues within one month thereafter will cancel membership and subscription for Association publications.

(2) Life membership—dependent on payment of fifty dollars (\$50.00).

(3) Patrons—those who contribute one thousand dollars (\$1,000.00).

(4) Honorary membership shall consist of those whom the Association wishes to honor for exceptional service in any lines of work for which the Association stands.

The last three shall be exempt from annual dues.

ARTICLE IV

COMMITTEES

The standing committees shall perform any work in their subject that may be assigned to them by the council or the executive committee. They shall report at the annual meeting or from time to time, as seems advisable.

ARTICLE V

AMENDMENTS

These by-laws may be amended by a vote of two-thirds of the members present at any meeting, provided that notice of the proposed amendment be given in due form at least one month in advance.

ARTICLE VI

Business shall be conducted according to Roberts' Rules of Order.

(Signed) BENJAMIN R. ANDREWS,
Secretary, American Home Economics Association.

THE FACTORS AND COST OF BOARD ON MINNESOTA FARMS.¹

THOMAS P. COOPER,

Minnesota Agricultural Experiment Station.

In 1902, Assistant Secretary of Agriculture W. M. Hays, then Agriculturist at the Minnesota Experiment Station, inaugurated a system of obtaining statistically the cost of producing farm products from the private farm.

At first the plan was to ascertain merely the labor expended on the farm for all purposes. This was to be classified and a rate of wages per hour established which would enable the data to be presented in money value. It was soon found that a theoretical wage was unsatisfactory and that in order to obtain the actual cost to the farmer of performing his various field operations, all the factors of cost were necessary.

The cost of labor on the farm is composed of the money wage paid and the cost of board, as in practically all cases the laborer is boarded on the farm, in addition to the wages received. Hence it was necessary to extend the scope of the investigation to include the farm home. Each item entering into or affecting the cost of board was charged against a household account, either at its actual cost, if purchased, or at the market or arbitrarily fixed prices, if produced on the farm. The labor of the women in preparing the food and caring for the house was charged at the prevailing rates for labor of that class on farms in the immediate vicinity. This rate varied from \$2.50 to \$5.00 per week, depending upon the locality and season of the year.

METHOD OF WORK: The so-called statistical routes were established in three localities in Minnesota, and typified our three principal forms of agriculture. One was located in South-eastern Minnesota near Northfield; one in Southwestern Minnesota, near Marshall, and another in Northwestern Minnesota near Halstad. From eight to ten farms were included on each route.

¹This paper was read at the Washington Convention of the American Home Economics Association, and is here printed, by courtesy of Assistant Secretary of Agriculture, Willet M. Hays.

Each household on the route was furnished monthly with a card ruled for each day in the month, with headings for the various items of farm produce generally obtained from the farm. A space was reserved on the right hand side for such miscellaneous items as should be reported. The classification was as follows: eggs, cream, milk, beef, pork, poultry and butter. The quantities used were reported under the various heads in the units in ordinary use. At the expiration of the month the cards were collected by a route statistician, footed and forwarded to the central office, where the items were converted into money values and placed on the farm account.

It will be noticed that no attempt has been made to obtain the quantity of vegetables and garden truck that are generally used in the house. At one time an effort was made to secure such data, but the women on the farms, with whom the work was necessarily carried on, refused to aid in the work or to report the quantities of smaller truck, as lettuce, radishes, peas, beans, and other vegetables, consumed by the family. The objection raised was that it required too much time and attention upon the part of the busy housewife to attend to these matters. A method was then devised by which a proper charge might be made to the house for such products used. It was assumed that the value of a farmer's garden to him was an equivalent of the rental value of the land, cost of the man or horse labor used in caring for it, and such items of cash as might be expended. This entire charge was then made against the household account at the end of the year, for garden produce used.

After carefully estimating the quantities of such produce grown in the farmer's garden at its farm price, which is much less than the town price, it seems fair to conclude that on the average this method of charging the cost of farm produce slightly exceeds the real value of the produce used. The average farmer's garden in Minnesota is very meager, often poorly cared for, and it seems certain that the dietary of the average farmer suffers from a lack of sufficient vegetable food.

In compiling the statistical data the roots, such as beets, turnips, carrots, etc., are charged in bulk to the house at the time they are dug, while the potatoes are either charged in bulk or from month to month, depending upon circumstances and conditions. Meats killed upon the farm are charged at the hoof, or

dressed meat price. Thus the cost of meat used upon the farm would be much less than that purchased from the shop or in town. At the present time, the value of a dressed hog on the farm does not exceed $7\frac{1}{2}$ c. per pound, but if the meat were purchased at local markets the cost would be from 10c. to 15c. per pound. Milk, cream, butter and eggs are charged at the market prices that can be obtained for them. At the present time whole milk is valued at 12c. per gallon on our Northfield route, this being the price received by the farmer when it is shipped. In establishing the cost of board the constant effort has been to charge all produce used at the prices received or paid for them by the farmer. The cost of board is thus established for the household as a whole, but it is necessary to obtain it upon the basis of an adult male laborer in order that it may be used in establishing the wage received.

The total days board per month for men, women, and children is kept track of and at the end of the month the part of an adult male that each woman or child represents is determined arbitrarily and the total days board converted to its equivalent number of days for a man. Upon this basis the cost of board is determined. Heretofore, the conversion of family board into board for one man has not been determined upon a basis as exact as could be desired but hereafter this will be determined according to the relative food requirements published by the U. S. Department of Agriculture¹ of persons of different ages as compared with a man in full vigor at moderate work. The average man will be assigned the unit of 100, the woman 80, and so on for the various ages or kinds of labor.

THE FACTORS OF COST: To enable us to more easily locate the cause of excessive costs and to demonstrate where savings could be instituted the cost of household board has been classified rather broadly under five subdivisions, namely: (1) farm produce, (2) groceries and fuel, (3) man and horse labor, (4) woman labor, and (5) furnishings.

"Farm produce" represents the cost of all food stuffs used from the farm, the dairy products, garden products, poultry products, meats, vegetables, etc. Under the heading "groceries and fuel" are charged all supplies for the house purchased for cash or for

¹U. S. Department of Agriculture, Yearbook, 1907, p. 365.

its equivalent in trade, all forms of groceries, meats, butter, and fuel, either illuminating oil, oil for heating or cooking, or fuel used in stoves, ranges and heaters. "Man and horse labor" consists of the labor performed at, or for the home, by men and horses, such as the removal of storm windows or banking from the house, special trips to town for supplies, etc. "Woman labor" represents the value of the woman's services in caring for the house, the preparation of food and such other duties as are generally required of the farm housewife in keeping house. The item "furnishings" represents the cost of repairs and depreciation of the various utensils and furnishings used in boarding the farm family.

The Table I, opposite, is presented for the three routes for the year 1907 to illustrate the difference in cost of board in the same vicinity and to show the relative percentage that each subdivision bears to the total cost of board.

The column headed "number boarded" represents the equivalent number of men boarded per month on each farm, determined as before stated by converting the board of women and children or non-productives into terms of man-days-boarded.

Data similar to that presented has been collected and compiled each year on the routes from independent farmers for the past four years. The information thus secured has been collected for a sufficient period of time so that when compiled we may rely upon it to represent accurately average conditions which prevail on our farms.

The cost of board on the individual farms is found to vary from \$9 to \$18 or \$20 per man per month and the relative cheapness seems to depend much upon the number boarded, for as shown in table I, the expenditures for food comprise only from 55% to 64% of the cost of board, the remaining cost being a factor which does not vary with the number boarded, and that can reach the minimum per boarder when the number of boarders occupies the full labor efficiency of the housewife.

The cost of farm board per man as determined on all farms for the years 1905, 1906 and 1907 was \$12.07 per month or 40.2 cents per man per day. The following table, from a joint bulletin, now in press, of the Bureau of Statistics of the Department of Agriculture and the Minnesota Experiment Station, indicates the relative cost of board for the years 1905, 1906 and 1907 and the average cost per route.

TABLE I.
COST OF DIFFERENT ITEMS OF BOARD IN FARMERS' FAMILIES STUDIED IN THREE LOCATIONS IN 1907.

Farmer's Family Studied	FARM PRODUCE		GROCERIES & FUEL		MAN & HORSE LABOR		WOMAN LABOR		FURNISHINGS		AVERAGE NO. (as Adult Males) BOARDED PER MONTH
	Value	Proportion of total cost	Value	Proportion of total cost	Value	Proportion of total cost	Value	Proportion of total cost	Value	Proportion of total cost	
Northfield		Per ct.		Per ct.		Per ct.		Per ct.		Per ct.	
H.	\$ 57.34	18.79	\$ 59.41	19.47	\$20.39	6.68	\$144.00	47.19	\$23.95	7.85	1.62
W.	198.94	26.73	148.07	19.84	36.16	4.85	312.00	41.91	49.35	6.63	4.93
H. P.	170.40	31.83	114.20	21.33	22.64	4.22	208.00	38.83	20.10	3.75	3.53
L.	102.96	23.22	126.04	28.43	18.72	4.22	157.75	35.59	37.84	8.53	2.34
M.	216.97	22.59	392.89	40.96	14.68	1.53	312.00	32.54	22.75	2.37	5.36
Ho.	170.97	26.50	276.32	42.80	32.75	5.10	160.50	24.90	4.50	0.60	3.12
T.	133.77	22.83	166.82	28.47	19.67	3.36	200.00	34.13	65.66	11.20	3.62
N.	105.00	15.93	269.81	40.94	32.61	4.94	208.01	31.56	43.51	6.61	4.70
C.	64.52	18.60	101.80	29.35	22.01	6.34	138.50	45.69			2.34
Total ..	\$1220.57		\$1655.36		\$219.63		\$1860.76		\$267.66		31.56
Avg per Farm ..	\$135.62	23.39	\$172.82	31.68	\$24.40	4.24	\$206.74	35.61	\$29.74	5.12	3.51
Marshall											
M.	\$181.50	36.8	\$128.74	26.2	\$24.93	5.0	\$154.00	31.3	\$ 3.49	0.7	3.8
My.	215.97	32.7	182.39	27.6	18.26	2.8	234.00	35.5	9.26	1.4	5.4
R.	308.04	30.5	399.67	39.5	35.95	3.6	266.00	26.3	1.35	0.1	7.03
F.	233.54	45.8	135.93	26.7	26.79	5.2	104.00	20.4	9.75	1.9	3.15
S.	341.69	37.6	255.74	28.1	42.80	4.7	204.85	29.1	4.65	0.5	6.4
Mt.	362.85	36.3	284.55	28.4	30.93	3.0	268.75	26.8	55.29	5.5	6.19
Me.	182.49	27.8	219.29	33.4	31.19	4.8	210.00	32.0	13.05	2.0	4.6
Total ..	\$1826.08		\$1606.31		\$210.85		\$1501.60		\$96.84		36.57
Avg per Farm ..	\$260.87	34.84	\$229.47	30.64	\$30.12	4.02	\$214.51	28.65	\$13.83	1.85	5.22
Halstad											
H.	\$415.75	41.62	\$ 95.64	9.57	\$174.88	17.53	\$210.00	21.02	\$102.50	10.26	11.3
A.	230.08	30.01	188.18	24.55	16.82	2.19	312.00	40.70	19.45	2.53	6.9
Ho.	163.44	20.73	166.69	28.17	71.24	12.02	183.00	30.93	7.15	1.20	4.87
P.	203.34	30.27	202.42	30.13	14.34	2.13	208.00	30.96	43.60	6.49	5.2
S.	173.19	31.48	161.52	29.36	161.52	4.58	179.00	32.51	11.15	2.03	3.98
Hou.	152.05	24.29	210.94	33.70	43.97	7.02	208.00	33.23	10.90	1.74	5.5
Total ..	\$1337.85		\$1025.39		\$346.48		\$1300.00		\$194.75		37.75
Avg per Farm ..	\$222.97	31.81	\$170.89	24.38	\$57.74	8.24	\$216.66	30.91	\$32.46	4.63	6.29

TABLE II.—COST OF FARM BOARD PER MAN PER MONTH AND PER MAN PER DAY IN DIFFERENT LOCATIONS IN MINNESOTA.

Locality and period.	Cost in 1905.	Cost in 1906.	Cost in 1907.	Average cost.
Northfield (Rice Co.)—nine farmers' families				
Month	\$11.18	\$13.37	\$14.32	\$12.96
Day .....	.37	.45	.48	.43
Marshall (Lyon Co.)—seven farmers' families				
Month	11.89	11.92	12.77	12.19
Day .....	.40	.40	.43	.41
Halstad (Norman Co.)—six farmers' families				
Month	10.74	11.38	11.42	11.18
Day .....	.36	.38	.38	.37
Norman Co.—an 1820 acre farm				
Month	9.75	9.90	9.39	9.68
Day .....	.33	.33	.31	.33
Stevens Co.—a 640 acre farm				
Month		16.00	15.00	15.50
Day .....		.53	.50	.52
Average for all farms				
Month				12.07
Day .....				.40

It is interesting to note the difference in the cost of board obtained on the different routes. The average cost per man for three years at Northfield was \$12.96 per month, at Marshall \$12.19 per month and \$11.18 at Halstad. The chief cause for the higher cost at Northfield lies in the higher standard of living which prevails in that section over that at Halstad. One is an old, well-settled and prosperous community within fifty miles of the cities, the other is a newer community not to exceed twenty five years old, distant from the centers of population and peopled by foreign immigrants or the first generation therefrom.

By reference to table I, the reasons for the higher cost at Northfield over that at Halstad may be discovered by comparison. Based upon the average number of men boarded the value of farm produce consumed annually per man was \$35.45 at Halstad and \$38.63 at Northfield, a difference of \$3.18 per adult male. A greater difference is observed in the cash expenditures for groceries and fuel, for the annual cost per man was \$27.16 at

Halstad against \$49.23 at Northfield, a difference of \$22.07. The higher cost is due to the purchase at Northfield of many foodstuffs for cash that are produced on the farm at Halstad, also to the purchase of a greater quantity of foodstuffs. The homes at Northfield are better heated than are those of Halstad so that the expenditures for fuel are greater. Another fact that also enters in, is that at Halstad a considerable quantity of wood is used which is obtained from small lots on the Red River, at a nominal price and labor of cutting. However, the added expenditure for fuel at Northfield merely goes to indicate the difference in the standard of living.

In the cost of woman labor there is a difference of \$24.36 per annum per man in favor of Halstad, which is due almost entirely to the greater number boarded per farm at Halstad than at Northfield. An average of 6.29 men were boarded on each farm at Halstad while 3.51 men were boarded at Northfield. Thus if labor were the same price per week on each route, the cost per man for this item would be almost twice as high at Northfield as at Halstad. To further illustrate the cause for the difference in cost of board and to illustrate the average quantity of farm produce other than vegetables used on the various farms, table III is presented.

TABLE III.

AVERAGE ANNUAL CONSUMPTION OF FARM PRODUCE PER MAN ON CERTAIN MINNESOTA FARMS.

Location of farms.	Whole milk	Skim milk	Butter	Cream	Eggs	Pork	Poultry	Beef	Mutton
	Lbs.	Lbs.	Lbs.	Lbs.	Doz.	Lbs.	Lbs.	Lbs.	Lbs.
Northfield . . .	333.2		19.1	16.3	61.8	94.4	22.6		
Marshall	241.	298.9	68.5	90.1	46.	77.5	24.9	28.4	4.1
Halstad	48.2	718.1	52.2	84.7	26.3	60.1	6.8	118.2	2.2

In table III the quantities of product obtained from the farm are shown under the various headings. Where no amounts are given as under the heading *butter* and *beef* at Northfield it does not indicate that such food was not used on the table but that if used it was purchased from the local creamery or from merchants.

The average annual consumption per man was calculated from the average number of persons boarded per month on the various farms averaged for the route. The values given in the table afford a good illustration of the quantity of food used, of the farm products used per man and show the great difference in the dietary of the

farmers in the southeastern part of the state and those in the northwestern. At Marshall a larger amount of butter was made and consumed on the farm than at Northfield and a considerably larger amount of cream, meats, etc., were used, while the quantity of eggs and pork used was smaller. At Halstad as at Marshall there was a tendency to make a greater use of products produced at home. The saving shown in the amount of butter and eggs used per man is possibly due to the fact that they have a ready cash sale, but is more likely due to the use of certain substitutes which are cheaper or more easily secured.

No skim milk (that is, milk from which the greater part of butterfat has been separated but which still contains about one-tenth per cent fat) was used on the Northfield route, but a large quantity was used on the Halstad route and but very little whole milk. The quantity of cream used on the Marshall route is large compared with Northfield, 90 pounds against 16 pounds, but the quantity of whole milk consumed was less. In 1907 only two farms on the Halstad route used whole milk. However, the loss of fat in the whole milk was made good by the use of cream and the skim milk. The cream commonly used on these farms contains from 20 per cent to 30 per cent butter fat.

It is of interest to note the great dependence placed upon dairy products on the Marshall and Halstad farms. There, the milk, cream and butter used assume a prominent place in the family diet. As no milk or cream is purchased the quantities of milk used indicate in a way the dependence of the farm family on the different routes upon these products. At Northfield 349 lbs. of milk and cream is consumed per man per year, while at Marshall and Halstad the amounts are 630 lbs. and 851 lbs. respectively. The farm at Halstad, then, provides almost $2\frac{1}{2}$ times more milk and cream per man per year than the farm at Northfield.

The farms at Halstad furnish annually 187 lbs. of meat per man per year, those at Marshall 134 lbs. and at Northfield 117 lbs. the housewife at Northfield being more dependent upon the butcher than are those of Marshall and Halstad. The smaller quantity of meat from the farm used at Northfield is probably due in part to the fact that the average number of persons boarded is insufficient to consume fresh meat during the warm months and in part to a distaste for the preserved products. The value of the farm produce used at Halstad and Marshall is

about one third of the total cost of board which illustrates the old saying that the farmer obtains one half his living from the farm. If labor and furnishings are not considered, the farm as determined by cost, furnishes 44% of the living at Northfield, 53% at Marshall and 56% at Halstad. If food values are taken into consideration a much higher proportion would be furnished from the farm. A large proportion of the expenditures for groceries are for items having a slight food value best used for condimental purposes and for furnishing pleasant changes.

If a people are known by their dietary we may look upon the farmer of Minnesota as being an exceptionally wellfed individual and consequently having a high labor efficiency. This view is undoubtedly correct for while the average number of hours of labor by the farmer is not excessive, yet a visitor is usually impressed with the amount of work accomplished. The average number of hours of work per day per man at Northfield was 8.56, at Marshall 8.29, and at Halstad 7.43, as determined from three-year averages based upon the total work performed in the year. It remains for the experts in food nutrition to show how well the farmer is fed.

It is to be regretted that statistics have not been obtained to fully cover the quantities and kinds of food consumed by the farm family, in order that the nutritive value of the food might be shown. It is purposed, however, during the coming year to endeavor to obtain the entire food consumption from at least a few farm families in Minnesota. At the same time an effort will be made to obtain similar data from an equal number of families in Minnesota cities for purposes of comparison. The women students of the Domestic Science department of the Minnesota College of Agriculture are in position to obtain accurate information and it is believed that they will supply such figures. Thus we hope to have data which will be of extreme value in formulating dietary standards and in offering us opportunity to study carefully the foods of the people.

There is room for much work along this line and methods should be so developed and standardized that the results may be comparable. If several of the experiment stations would pursue such an investigation for a sufficient length of time and with a large number of farm families, the data could be compiled and issued as a cooperative bulletin.

SELECTION OF DOMESTIC ART SUBJECT MATTER FOR SECONDARY SCHOOLS¹

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By "secondary," one generally means the four years course of study connecting the elementary school and the college, or higher schools, but in the broader sense, the term secondary may include all kinds of educational schools of one, two or three years, or even evening classes beyond the elementary school, such as the continuation classes of Germany. In this discussion I shall bear in mind both meanings, the broader as well as the general use of the term secondary. In the course of study presented at the end, the more accepted meaning of the term secondary education is assumed. In selecting subject matter we may take as our standard that it must prove most satisfactory and profitable to the girl, and may understand by the term satisfactory, that the interest of the girl must be kept constantly in mind, and by profitable, that the selection must be of that most helpful to the particular group.

With this agreement as to the term secondary and this understanding of the satisfactory and profitable character of subject matter, we may discuss the selection of subject matter under two heads:

1. The factors or conditions governing the selection of subject matter.
2. The mass of domestic art subjects suitable for secondary schools, from which selection must be made.

Chart 1. The Factors Governing Selection of Subject Matter

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1. The Girl
 2. Locality and Environment
 3. Cost
 4. Aim of Secondary Education in Particular School
 5. Social Aspects
 6. Ideals of Director
 7. Industries of Locality.

¹This paper was delivered before the meeting of the Teaching Section of the Lake Placid Conference, Washington, D. C., Dec. 31, 1908.

The first factor governing selection is the girl, herself, and if the teacher is really human, she cannot help but feel the appeal of the girl, with the unfolding of this nature which is so very human. We are to guard her physically and watch her psychologically. There will be much of interest and much that the domestic art teacher can do in her close association, to protect her and help her.

The environment and locality affect selection. Locality, may serve to designate the place where the school is located as, for instance, a private school in a suburb or one in a large city; and environment, so much more than definite locality, all the influences which go to make up the atmosphere surrounding the particular locality. The private school in the suburbs might be a boarding school for girls and the course of study selected would be very different from the course presented in a city private school, where the students were only day pupils. The influences of the home life or of the other social institutions, go to make up the environment, so that it means something more than just definite locality. These conditions naturally affect the selection of the problems which the domestic art teacher may wish to present.

The general aim of secondary schools and of the particular type of school, will also affect selection. If the school prepare for college entrance, the course will because of time limitations be quite different from one which aims to train the girls for home life. There may also be trade courses, and the aim of such schools would again differ from those of the college entrance courses. Evening or day continuation classes for dressmakers or others would mean again an entirely different course of study, and this aim will certainly control the teacher's plans. The manual training high school would demand a course of study which might be quite different from a technical or practical arts high school. If sewing were presented in the elementary school, the work of the secondary would differ from one in which the children have not had such a preparation before entering.

The cost of the work and the time allowed for it would again influence selection. If the board of education insists on supplying all the materials used, the teacher may be handicapped by a certain sum unless she be very ingenious and versatile. Four hours a week would naturally cost more than two because of the

extra materials which would be used. The girls in some schools are permitted to furnish their own materials. This is both wise and satisfactory and enables the teacher to plan a course of study quite different from one where the authorities insist on furnishing all the materials used. In the schools of trade type, the expense of the work is very great because it is necessary to use good materials of many varieties in order that the pupils may have the necessary experience in handling those things which would be used later in trade. In this type of school, provision must be made for the sale of the articles, and the cost of this work, as well as the demands of trade, will naturally influence the selection of the things to be made.

The teacher of domestic art should keep in mind the social aspects of the home and the school in selecting the problems for her course of study. She should take into consideration the needs of the neighborhood, as they may be presented in the hospital, neighborhood house, or nursery, in the home and school, and where it is possible develop a sort of social consciousness within the girl so that she will be interested in working for the needs of others. These social topics, if kept in mind, will increase the interest and naturally affect the planning of any course of study.

The ideals of the principal of the school, of the superintendent of schools, the president of the board of education, or other supervisory officer, naturally affect the plans of the domestic art teacher. Their ideals for the work may be quite different from her aims. A woman of much tact and versatility and of the best training is needed to cope with affairs. The proper selection of subject matter will often hinge on the way in which she handles the situation, especially if the ideals of these persons are not in accord with her own.

If the secondary school is for trade courses, selection of subject matter would naturally be regulated by the industries of the locality open to women, the wages paid and the influences surrounding the trades. All of the above factors are bound to influence the teacher of domestic art and to affect the selection of the problems which she may wish to present in her particular locality in order to meet conditions.

With these factors in mind we may turn to the subjects generally included as belonging to the domestic art field. I have

grouped these about the two human needs of shelter and clothing. On the point of shelter our subject matter naturally overlaps that of domestic science, but I have included those things which fall under the head of shelter on the artistic side.

Chart 2. Domestic Art Subjects from which Selection is to be Made

Clothing

1. Hand Sewing
2. Machine Sewing
3. Millinery
4. Embroidery
5. Textile Work
6. Selection and care of Clothing.

Shelter

1. Keeping Accounts
Clothing, etc. in Relation to Income
2. Designing for Household Furnishings and Decoration
3. Making of Artistic and Healthful Furnishings
4. Repairing of Household Linen, Clothing, etc.
5. Laundering and Cleansing of Clothing and Household Materials.

From this chart it may be possible for you to get an idea of the subjects as they are grouped under the heads of clothing and shelter. By hand-sewing I mean the making of articles which would be of particular value and interest to the girl—not the sewing on scraps which one finds in so many schools. Machine sewing involves the making of under garments and dresses or other problems, by machine, in accord with the demands of the school or the home needs of the girl. This naturally includes the economical cutting and use of materials and planning of appropriate gowns, the use of patterns and the regulation of the cost of clothing. Millinery may be made of much interest to the girl if the class is well conducted with economy of time. The making of spring, summer and winter hats may be included in the course. Embroidery as applied to high school work should mean definite application of the stitches taught to articles of interest, such as lingerie hats, under garments, problems for house decoration, such as pillows, table-runners and other articles. The textile work may be given as supplementary to all of the above subjects and may include the study of the evolution of textiles, the dyeing and properties of materials, the collection of samples of the leading textiles with their widths,

prices, names, use, and other data. Basketry may also be studied as a textile subject and is of interest as an additional subject for variation in the course of study. It is of value up to a certain point, but after the technique has been learned, it is not wise for the girl to spend much time in needless repetition when there are so many other things of greater usefulness when completed.

The care of clothing should be taught in connection with all the above subjects or in a particular way by itself; the repairing and re-making of garments is well worthy of consideration in a well planned course of study for the secondary school. "A stitch in time saves nine," and the girl who knows how to repair and care for her clothes has a household art of true economic value.

The keeping of accounts educates the girl to become as a woman a provident consumer. Especially is this true in relation to clothing for it enables the girl to see the relation of the expenditure for clothes to the rest of the expenses which are generally included under the cost of living.

Under the subject of shelter I have also included the designing and making of artistic and healthful furnishings. These may be designed in the art class and made in either the sewing or embroidery classes. Special rooms in the school building or at home may be planned and the girls enabled to work out the furnishings for them. If it is not possible to actually furnish a room at the school, the girls may make charts which will illustrate the way in which furnishing may be done should the opportunity come to them. These charts may give the colorings for walls, wood-work, draperies, rugs, pillows and other articles of furnishing, and may be illustrated by means of pictures cut from magazines or old furniture catalogs. Exhibits of furnishings are also helpful and may often be obtained as a loan from some furniture or department store and may prove of great value to the whole school.

The repairing of household linen is naturally a domestic art subject. Such repairing may be done in the hand-sewing class and discussed while considering the care of clothing and household materials. Laundering and cleansing of clothing and materials should be given in connection with the work of the school and may best be presented perhaps in special laundering courses, or as a special subject for consideration by domestic art teachers if no laundering work is offered in the school.

With this mass of subject matter before us and an understanding of the factors involved in selection, how shall we know which to choose? It is impossible to present all, especially if the subjects of cookery, home nursing and home management are to be included in the curriculum of household arts. We are compelled to face the situation that the selection must hinge on the good judgment of the teacher. I feel that there are two kinds of domestic art teachers in the secondary schools, those who teach sewing technically and those who give the subject a rich thought-content. In order to treat the subject in the best way, the teacher must use her versatility and ingenuity and see that the subjects are developed with interest and the possible relationships made to the other subjects of the school.

The textile field has much thought material to offer—the cost of textile materials, economy in buying, choice in selection of appropriate and artistic clothing as well as home furnishings. The relation of domestic art to the other subjects of the high school—art, history, geography, literature, economics, physics and others, should be kept constantly in mind. Domestic art teachers should feel that the art work is the basis for all their plans and if they are not directly responsible for this part of the work they should try to interest the art teachers and have the connection made as vital as possible. The relation of domestic art to such social work as that of the Consumers' League, the Municipal League and other societies, should be kept in mind, and through them the interest of the girl enlisted in philanthropic work. If the domestic art course is well planned, the teacher will aim to develop foresight, responsibility, initiative and creativity, as she presents her subjects. Visits to factories, museums and shops, will help to give the pupils a new point of view and to make the work more truly interesting and vital. Plans for making things of value in the home and school, help to increase the girl's interest. There may be co-operation with school festivities, the making of Christmas gifts and things for others. All of these interests help to make the work more truly valuable.

The following course of study which is planned to meet the definite conditions given, may be suggestive to those who are engaged in planning their school courses. It has been arranged as part of the household arts course for a secondary school, and

the time allowed is two hundred and forty hours which may be covered in two or three years. In planning this course, the domestic science part of the work was kept in mind and the same amount of time allowed for it, although the two courses would naturally overlap under the problems considered as shelter and household management. Although time does not permit its discussion I trust that it may prove of some value to those of you who may be engaged in planning courses of study.

COURSE IN DOMESTIC ART

[Part of Household Arts Course for Secondary School]

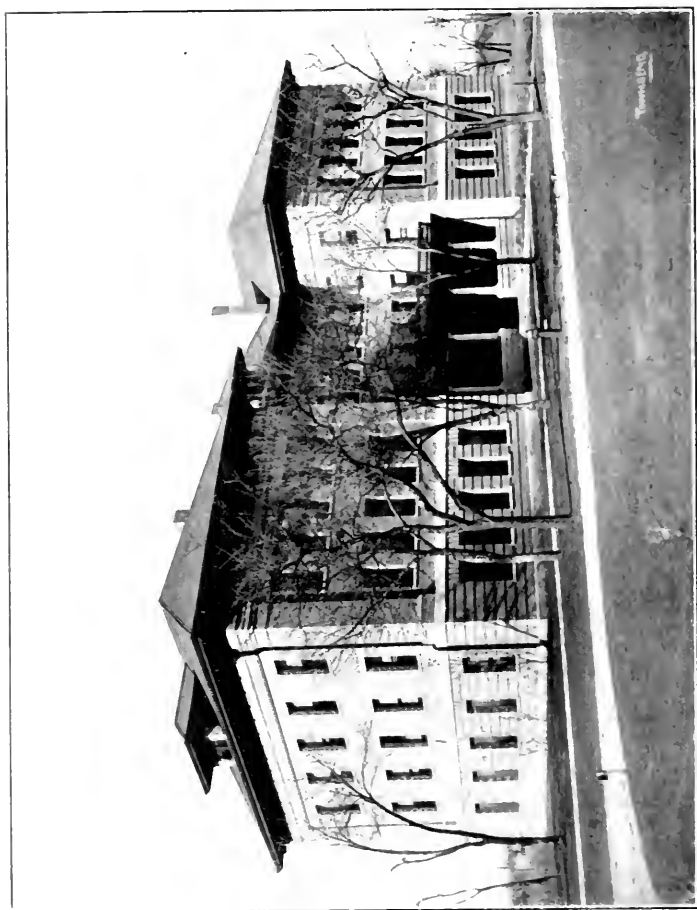
- I. Factors governing the selection of this subject matter for a possible condition.
 1. Previous training—Hand sewing given in 6th and 7th grades of elementary school.
 2. Secondary course to count towards college entrance.
 3. Location of school—(assumed) Suburb of Philadelphia.
 4. Girls—From homes of best middle class—Some go to college—others to be prepared for home duties.
 5. Time, 240 hrs. To be distributed as seems best in working out program of all studies, possibly three hours per week for two years.
 6. Cost. Pupils supply nearly all materials.
- II. Course of Study.
 - A. Clothing.
 1. Problems.
 - a. Underwear (3 pieces)
 - b. Shirt waist gown or simple lingerie gown (one piece or waist and skirt)
 - c. Making of lined gown—
 1. Skirt—drop skirt
 2. Waist.
 - d. Millinery.
 1. Fall or Winter Hat
 2. Summer Hat—straw or lingerie.
 - e. Embroidery.
 1. Table cover or pillow top
 2. Lingerie Hat or underwear (above mentioned).

—or—

 - Basketry.
 1. Work basket (rattan)
 2. Bowl shaped (design).
 3. Flat tray (design)

2. Processes involved in working out above problems.
 - a. Hand sewing (review)
 - b. Machine sewing
 - c. Drafting with use of patterns
 - d. Fitting and hanging of garment
 - e. Designing for decoration and draft of patterns
 - f. Computation of costs.
3. Thought content to be developed while presenting above problems.
 - a. Textile study
Source of materials, properties, manufacture, design and workmanship of textiles.
 - b. Use and adaptation of bought patterns and relation to drafting
 - c. Hygiene in relation to wearing apparel
Sweatshop labor
 - d. Study of relative values of hand and machine work
 - e. Suitability of apparel in relation to use and income.
Line and color to be adapted to wearer. Economics of the purchase of materials, prices, widths, quality, etc., in relation to use, and planning of the wardrobe. How to reduce cost with good effect.
 - f. Training for accuracy, neatness, foresight and responsibility
Development of social consciousness.
4. Allied Subjects.
 - a. Art in specific design, color, adaptation of line to space—relation to human form;
History of costume as expression of social development; appropriateness of clothing and beauty.
 - b. Physics (care of machines)
 - c. Commercial Geography
 - d. Industrial History
 - e. Economics (simple form)
 - f. Physiology (hygiene of clothing)
 - g. Chemistry (dyeing of materials).
5. Related interests. To be developed while teaching above problems.
 - a. Visits to shops, factories, museums and libraries
 - b. Use of books and current magazines as of value in above study

- c. Work of organizations, as Municipal League, Consumers League, Board of Health, Trades Unions (Relation of employer and employees)
 - d. Sweatshop problems, duties, and customs (imported gowns, etc.)
- B. Shelter and Household Management.
- 1. Problems.
 - a. Making of charts showing relation of clothing to income: also charts of color schemes for rooms and furnishings
 - b. Making of furnishings
 - 1. Scarf for table or pillow
 - 2. Curtains
 - 3. Weaving of cover.
 - c. Keeping of accounts—informal talks on house management in relation to furnishings and clothing.
 - d. Laundering of materials (cleansing, dyeing).
 - 2. Processes involved in working out the above problems.
 - a. Stenciling
 - b. Block printing
 - c. Hand loom weaving
 - Co-operative work
 - d. Exhibits in school of rooms furnished
 - e. Trial of method of keeping personal accounts
 - f. Cleansing and dyeing of old materials.
 - 3. Thought Content to be developed while presenting above problems.
 - a. Artistic and beautiful furnishings of home; spirit of home making; ethical and social side; kind of home in relation to income.
 - b. Management in relation to repairs of clothing, linen, rugs, etc. Care of clothing and house furnishing. Laundering of materials.
 - c. Keeping accounts. Clothing and furnishings, their relation to income.
 - d. Economy of time in relation to making and use of home things.
 - e. Business management. Simple business rules and law for women.
 - 4. Allied Subjects.
 - a. Art.
 - Study of design materials, color in relation to rooms
 - b. Household sanitation—
 - In relation to furnishings
 - c. Chemistry—



HOME ECONOMICS BUILDING, UNIVERSITY OF NEBRASKA, DEDICATED JANUARY, 1909.

Color; cleansing of wood and materials; dyeing; laundering

d. Economics (very simple)

Law of supply and demand

Money—fall of price.

5. Related Interests.

(Same as above subject (1) Clothing.)

**University of
Nebraska**

At the University of Nebraska there was dedicated on January 20th, a college building to be used for practical instruction in Home Economics. The building is located on the University Farm about two miles from the Campus. The structure is three stories high and has dormitory space for some sixty or eighty students, a good textile room, two protein kitchens and a protein dining room accommodating one hundred and fifty persons. The school girls of High School grade live in the building and carry on their work there. The women students of the University have their cooking, sewing and protein work in the new building.

**Conference in
California**

The Pacific Conference on Home Economics held a meeting Monday afternoon, December 21st, 1908, at Los Angeles, California.

Dr. Sherwin Gibbons read an interesting paper on dietetics in which he depicted the unsightly and unsanitary conditions existing in the Russian quarters. He enjoined all domestic science workers to try to raise the standard of living among the poorer classes. After the paper, a round-table was held and the ways and means for handling these problems were discussed.

The next feature was a very interesting and thoughtful talk on "Our Play-ground Work in Los Angeles," by Miss Best. She spoke of the three spheres of life, the physical, mental and moral, and how the play-ground work touched each. She gave a brief history of the work since its origin in Boston in 1886; Chicago now leads in the work and it has so grown that it has become recognized as an essential in all large cities. In New York the Board of Education has charge, but in most cities it is under the direction of the City Council.

The results of playground work are three-fold: First, it corrects physical defects; second, it brings about a co-ordination of the mental and physical; third, it raises moral standards, and prepares the child for good citizenship.

Following this, Miss Flagg spoke briefly of our Home Economics organization and its objects.

The time and place for the next meeting was left to the Executive Committee. All interested in the work were invited to join the Conference, after which the meeting was adjourned.—Mae McKinley, Secretary.

THE TRAINING OF DIETITIANS FOR HOSPITALS.¹

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Important as is the question of what the institution demands of the trained head of the Dietary Department, (previously considered), at the present time it is of even greater importance that we inquire how this demand is to be met and the need supplied.

So far the institutions have turned to the domestic science schools for aid and have employed the graduates from these schools as heads of the Dietary Departments. But although for a considerable period of years the managers of institutions have sought the domestic science school graduates for such positions, it is only recently that a very serious effort has been made on the part of the domestic science schools to inquire deeply into the actual needs of the institution and to attempt to extend their teaching seriously along this line.¹

There has been the prevalent opinion that the requirements in the trained head of the Dietary Department of the institution were less than those for a teacher of domestic science, and consequently the tendency has been to offer short courses to prepare women for institutional work and to impress the normal student with the idea that institutional work was rather undesirable and comparatively ignoble. Examining the standards in the courses of study for women preparing for institutional work and for women preparing for teachers of domestic science, as set forth in the catalogue of one school which stands at the head in this line of work, we find that the applicant for the course in institutional training is not required to take an entrance examination and the nature of the preparation required in the applicant is such as could be provided in a grammar school education. On the other hand the applicant for training as a teacher must have completed a four year course in high school and a definite amount of work in science, mathematics and have had experience in practical work in domestic science; applicants so prepared must also pass

¹This is an abstract from a paper presented, by invitation, by Miss Corbett before the American Society of Superintendents of Training Schools for Nurses, at Cincinnati, in April, 1908.

an entrance examination in English literature, general history, current events and must submit note books which record the mental operations that accompany individual laboratory work in science, or letters from their instructors in science and mathematics or from the principal of the school attended and an official copy of their school record in these subjects. In contrasting the courses of study provided for the two lines of preparation mentioned, we find that psychology, history of education, science of education, practice-teaching, construction, design, the physics of heat, are given the pupil preparing to be a teacher and are omitted from the course for the women preparing for institutional work, and it is presumable that the following subjects which are taught in both courses are given more thoroughly and at greater length in the course for teachers: cookery, chemistry, dietetics, bacteriology and physiology. Other subjects which are given place in both courses are physical training, hygiene, sanitation, laundry work, household economics, marketing and accounts. One cannot but conclude that the fact that the school of domestic science gives institutional work a less extensive and less intensive course of preparation than it gives teaching (as evidenced in giving it a one year course instead of a two year course) must have its effect upon the attitude which the student preparing for institutional work will bring to the institution. She is not impressed with the extent and the depth of the problems which she will have to face, any more than she is prepared to meet them. I do not say that such a one could not become a successful head of a Dietary Department of a large institution, for if she has native ability and has a foundation education in advance of the requirements of the one year course, she may with experience in institutional work develop all the qualities required. But in this case credit should be given to the individual rather than to the one year course of training. Again one cannot but contrast the probable development of the individual in the one year course and in the two year course, assuming that their preparations for the work were equal at the time of entrance on the courses of study. At the end of one year the student in the one year course must feel that special knowledge is very easily gained and will have acquired an unjustifiable confidence in her own ability which may result in great discouragement at the end of a year or two of institutional work when she finds that her estimate of herself and

her ability has not stood the test of the practical work. On the other hand at the end of the two year course the pupil is more apt to feel that special knowledge is not easily gained, that there is always more to learn, that the institution may possibly teach her something which she has not learned in school, and that she cannot go to any situation in life with a note-book containing absolute formulae for meeting all conditions that may arise. The two year graduate will find in the institution more points of relation between her own department and other departments than will the one year graduate, and by reason of her more mature mentality she will turn these relations to account not only for the good of her own department but for the good of the entire institution. Not to dwell upon this particular phase of the matter too long, although I consider it most important, I would simply call to your attention the fact that in many respects the hospital or similar institution is somewhat of a settlement, a little social body having a world of its own, and that the individual who takes up her residence there in a position of authority exercises an influence which she can have no means of estimating correctly previous to institutional experience, and which when once in the institution she will appreciate only so far as the breadth of her education and development of herself mentally will permit. She is useful to the institution and through the institution to a considerable portion of humanity, just to the extent to which she is prepared for this work; a grammar school graduate will have a limited field of usefulness in the institution; a high school graduate will have a less limited field of usefulness, and the college graduate may have a practically unlimited field of usefulness.

It should be brought to the attention of educators in charge of this work of preparing women for institutional positions, that the opportunity for teaching in institutional work is considerable, for as a rule the dietitian is required to teach classes of nurses (where a limited course in invalid cookery may meet the requirements but at the same time falls far short of all that might be given by a better prepared woman in the same line of work). She is also in a position to play a considerable part in moulding the opinions and forming the standards in regard to food and its service, of thousands of people who come to the institution in the course of a year. Even the hospital which has but 100 beds will

receive in its wards during the course of the year many times that number of people, who will remain for a greater or less length of time, the majority of them to return to their own homes later.

✓ If the quality of the food by reason of its correct preparation and careful service were such as to impress these people favorably and cause them to observe and inquire into the methods and the cost of its preparation, who can estimate the influence that would be brought into the homes to which these people would go after their hospital residence? And who can say that the extent and the value of such influence would be one whit less than that of the teacher of domestic science in the school room? Why should hospitals not be looked upon as a certain sort of social settlement, in which influences of this sort must be estimated and provided for? How many of us can speak with conviction of hospitals where the preparation and service of the food would furnish a proper standard in these matters for the people in the institution who must partake of the food, and which would have the effect of raising the standards in the homes of these people when they leave the hospital? I am afraid that hospitals in general are not considered to establish standards in these matters and that hospital conditions prevalent at this time do not encourage the idea, yet what better opportunity could possibly present itself? ,

The extent to which this plan could be developed, of making the hospital food service the pattern for the community, must always be limited absolutely by the qualifications of the trained head of the Dietary Department. The education, personality, technical skill, experience and mental attitude toward the work, which will be found in the person mentioned, will measure the possibilities of the dietary work of the hospital. There is no subject taught to the domestic science student who is preparing as a teacher, which will not serve also as valuable preparation for the woman who is to take up institutional work. This fact is given recognition in the catalogue of the domestic science school above referred to, when it announces that the course for teachers will also prepare graduates "to be Dietitians, Supervising Institutional Housekeepers and Caterers." But no stress is laid on the necessity for the breadth of training for the more responsible positions and for this the hospital managements may be partly to blame in not having fully appreciated the opportunities.

In my first institutional experience in the Department of Public Charities, there developed the need for assistants. Of course I desired domestic science graduates. Two problems then arose and were handled as follows:

First, any assistant to be valuable to the head of the Department must be capable of relieving the head absolutely of the detail work in some definite section of the Dietary Department. But no domestic science graduate cares to remain all day for an indefinite number of days supervising the work of one dining room or one kitchen. She wishes more variety, a greater range of opportunity. At the same time in a large institution with the Dietary Department in process of organization, some one must be in close touch with all branches of the Dietary Department at all hours of the day; and an assistant on the move from one point to another was not of such value to the institution as one stationary at each point. The dilemma here consisted of a trained individual unwilling to remain stationary in one branch of the department, and a management that could not pay enough to make her willing to endure the monotony of such a limited field.

The second problem was that of the partial unpreparedness of the graduate in her lack of knowledge of institutional methods and etiquette. She would have to be taught if she was to be given responsibility. Why should we pay her a salary for the privilege of teaching her? The solution of the two problems was the evolution of the "pupil dietitian" whose relation to the institution is analogous to that of the interne physician. She is there to learn how she may apply her knowledge most effectively, and to learn those things which the schools do not teach, and those which the schools cannot teach. The management allows \$10 per month for three months while she continues in this relation to the institution, an apprentice dietitian, and gives her a certificate of the work she has done. After three months of such experience, the pupil is able to decide if she wishes to follow institutional work, and the management can estimate the pupil's ability and adaptability to institutional work. From these candidates, with experience in hospitals, appointments are made to permanent positions, in preference to inexperienced candidates. This plan has been followed for five years, and experience points to but one modification of the scheme—that of lengthening the term from three months to at least six months, possibly to a year.

THE NEED OF TRAINED DIETITIANS IN INSTITUTIONS FOR THE TREATMENT OF TUBERCULOSIS.

HERBERT MAXON KING, M.D., Physician in Chief, Loomis Sanatorium,
Liberty, Sullivan County, New York.

In the institutional care of the tuberculous invalid the most difficult problem which presents itself, whether from the point of view of therapeutic efficiency or from that of economy, is the one of diet. Underfeeding on the one hand and indiscriminate stuffing on the other are alike fatal to success in treatment, while a *badly constructed* dietary is usually mischievous and always costly. To maintain the highest degree of efficiency in an institution of this character, the dietary must, of necessity, be under the supervision and control of some one competent and skilled in practical dietetics. The ordinary cooks and caterers usually available are no more competent to manage the cuisine of a Sanatorium than would be the practical but untrained nurse to officiate at a major surgical operation. With accumulating experiences it is becoming more and more evident that an educated and specially trained dietitian must be included in the professional staff of a tuberculosis sanatorium.

Nevertheless, in this country at least, the dietary in most such institutions is still left largely in the hands of ordinary cooks and even less skilled caterers under the somewhat vague and indirect guidance, to be sure, of the physician in charge whose other duties render a painstaking and scientific direction of the cuisine well nigh impossible. The available funds of the institution combined with the taste and capacity of the patient practically determine his diet. It is not because institutional physicians have failed to recognize the need of a more systematic and scientific plan that such a condition exists, but because of the extreme difficulty of finding suitably trained *educated* dietitians to undertake the work. This special and, from the present view point, all important field has apparently been neglected—at least it does not seem to have been developed—notwithstanding the far reaching and most attractive possibilities which it offers. It is a comparatively simple matter to secure the services of capable

medical assistants and splendidly trained nurses, but quite another story to find trained dietitians for sanatorium work.

As an illustration of what can be accomplished by the introduction of scientific dietetics in the sanatorium, a recent experience in one of the divisions of the Loomis Sanatorium is interesting and certainly instructive. The Annex is the semi-charitable division of this institution, with a capacity of forty patients, equally divided as to sex. Only ambulant and presumably curable cases are admitted and the patients are almost exclusively from the working classes. Under my direction the administration of this branch of the Sanatorium is in the hands of a Medical Assistant and a Superintendent. Under the old regime the arrangement of the menus was left largely to a rather superior cook, subject to the approval of my Medical Assistant. The catering was done by the Superintendent. The three meals daily were supplemented in such cases as failed to show weight gains by extra diets of milk and eggs, taken between meals. At intervals rough estimates of the chemical constituency of the food were made. The average consumption per patient *per diem* was approximately:

Protein	156 grammes
Fats	215 grammes
Carbohydrates	323 grammes
Calories	3960

This dietary is by no means ideal. The excess of protein and fats is at once conspicuous. The bulk of these constituents was made up as might be expected from milk, eggs and meat, chiefly from the first two. Patients were not restricted as to the choice or amount of the fare provided and as a result individual excesses in certain constituents were common. The cost of this dietary in 1905 was approximately 35 cents per patient *per diem*, but during the two years following the increasing price of all food stuffs brought the cost up to from 38 cents in the summer to 42 cents in winter. From the point of view of therapeutic efficiency, moreover, this dietary was faulty, for while weight gains were satisfactory, digestive disturbances were common, as might be expected, from a diet so constructed.

Under the new regime the catering and arrangement of the menus are entirely in the hands of a trained dietitian (at present Miss Charlotte Strickland, a graduate of the Boston School of

Domestic Science). The combustion value in calories and the chemical constituency as to proteins, fats and carbohydrates are from time to time according to varying needs *prescribed* by my assistants or myself. In the dining room there are three distinct "messes"—the newcomers and "small eaters" at the Doctor's table, the "normals" at a table by themselves and the "working corps" composed of convalescents on hard manual labor at the nurse's table.

The exact consumption of each food constituent is measured for each table and for each meal and at the close of each day is carefully tabulated. Individual excesses and deficiencies are guarded against. The food is weighed and measured before it goes to the patient and the residue is again weighed upon its return to the pantry; *the diet is constantly under perfect control.*

The chief cost of a dietary is its protein constituent. As a rule the ease with which a protein can be prepared for the table is, roughly speaking, a measure of its cost. This is particularly true of such commodities as meat. A tender porter-house steak, for instance, needs little time or skill in preparation for the table, while a scrag end of beef requires most careful cooking by one who understands the art to make it equally attractive, yet a pennyworth of the protein of the latter is several times that of the former in nutritive value, and when properly prepared and garnished is almost equally attractive.

When eggs are more than twenty-five cents the dozen (and fresh eggs are often from thirty-five to forty-five cents) they are a very extravagant form of protein, though their preparation for food is practically nil.

It is the recognition of such points which gives the trained dietitian every advantage economically over the ignorant cook or uneducated caterer.

During the month of December just past almost all food stuffs reached higher prices, I think, than ever before in our experience, yet under the new regime at our Annex the cost of the dietary (raw material) was only twenty-eight cents per person per day, and in nutritive value averaged as follows:

	Table I	Table II	Table III
Proteins	129 grammes	132 grammes	139 grammes
Fats	112 "	116 "	120 "
Carbohydrates	389 "	400 "	431 "
Calories	3165	3260	3453

This diet is fairly representative of that which we have employed during the colder months of the year. Compare it with the diet of the old regime and the superiority of its construction is at once apparent. With this dietary at this season digestive disturbances are practically unknown, while weight gains are most satisfactory.

In view of our experience it seems to me no further argument is needed to show that the trained dietitian should become an integral factor in the staff of the sanatorium.

This field of dietetics seems to be especially within the sphere of woman; to offer to the capable a broader scope than any one may have hitherto realized, and as the demand certainly exists we may reasonably expect the supply to be forthcoming.

The meetings of the American Economics Association, the American Sociological Society, the American Association for Labor Legislation and the American Statistical Association, were held at Atlantic City December 28th-30th, and the programs included several sessions related to home economics. Especially was this true of the Sociological Society which devoted its entire program to the topic "The Family in Modern Society." Among the papers presented, which will doubtless be published later in the proceedings of the Society, were the following:

"How do Home Conditions React on the Family?"—Mrs. C. P. S. Gilman, New York City; "The Effect on Woman of Economic Dependence," Charles Zueblin; "The Relation of the Family to Social Change," William G. Sumner, Yale University; "Social Diseases and the Family," Dr. Prince A. Morrow, New York City; "Are Modern Industry and City Life Unfavorable to the Family?," Edward T. Devine, Columbia University, and Charles R. Henderson, University of Chicago; "The Family in a Typical Mill Town," Miss Margaret Byington; "Influence of Income on Standards of Life," R. C. Chapin, Beloit College; "Rural Life and the Family," Kenyon L. Butterfield, President of the Massachusetts Agricultural College; "What is the Effect of the Higher Education of Women upon the Family and the Race?," David Collin Wells, Dartmouth College; "How does the Access of Women to Industrial Occupations React Upon the Family?" Ulysses G. Weatherly, Indiana University; "The Self-Supporting Woman and the Family," Mrs. Lydia K. Commander, New York City; "The Statistics of Marriage and Divorce," Joseph Adna Hill, United States Census Bureau; "Has the Freer Granting of Divorce Proved an Evil?" George Elliot Howard, University of Nebraska; "How Far Should the Members of the Family be Individualized?," James E. Hagerty, University of Ohio; and "How Far Should Family Property be Conserved and Encouraged?," George K. Holmes, U. S. Department of Agriculture.

THE ECONOMIC VALUE OF THE VISITING DIETITIAN.

WINIFRED STUART GIBBS,

New York City.

Is it not worth the city's while to teach economic housekeeping, so that the families which make up the municipal fabric may contribute clean, healthy citizens to the country's upbuilding? In New York City a philanthropic organization is trying to answer this question. It is sending a visiting dietitian into the tenement homes, and asks her to face conditions squarely in each home, to formulate a course of instruction that shall be preventive of further bad conditions if possible, and remedial of present ones if necessary.

Some of the problems which confront the worker are: rousing the house-mother from the apathy into which her narrow life has plunged her; convincing her that to know where she stands, in terms of actual money sums at her command, is the first step towards bettering her family's condition; planning the instruction so that she can follow the path which leads to the largest share of health and consequent efficiency; overcoming dietetic prejudices and giving her a knowledge of proper feeding to replace the broken down prejudices.

In the report of a recently formed committee, one of whose purpose was to make studies in standards of living, a certain group of families is frankly excluded from consideration; that is the group whose income is so low that a proper standard cannot possibly be maintained, the group whose members must depend partially on outside help. This group, and the one next above it, the division on the ragged edge of independence, constitute the field of the visiting dietitian. What may she accomplish?

To begin with group one, where charitable aid is customarily necessary, the busy district visitor supplies the family with food but she cannot, in the stress of her work, wait to see if the best possible use is made of it. Here the visiting dietitian steps in, helps the mother to plan her meals, so that the week's supplies are made to yield the maximum of strengthening food, teaches her how to cook each article and gives her a general idea of its use in the body. Rightly used, this knowledge may mean an actual saving in the amount the visitor finds it necessary to grant the

family for food. Many individuals in this group, however, are so far fallen from the normal physical condition that the ordinary methods will not suffice. Hence, in picked cases, the association is allowing the dietitian to furnish an adequate diet, giving instruction in its preparation. These experiments which have been begun recently, promise successful results. In each case the main stay of the family is being pushed on to a condition of fitness for work.

In the next group the task is one of support, to prevent the family from falling to the group below, and, at the same time, one of construction so that it may be carried over the ragged edge of independence and firmly established in self-maintenance. Even superficial thought will readily show how this may work out from properly directed instruction. To consider first the supporting process. It is the work of the dietitian to ascertain whether the health of the family is normal, and if it is not to give such instruction in feeding as to make it so. She cuts off the tea and coffee from the children and reduces nervous symptoms directly traceable to their use. If there is a nursing mother, she is instructed in the diet calculated to provide the baby with plenty of milk. The diet of the young children and of the school children is prescribed. If there is a case of illness in the family, a special dietary is planned after a physician has diagnosed the case. All this is with a view to keeping the family from falling below its present standard.

The dietitian's next care is to instruct the housekeeper so that she will go on to a higher standard. She instructs her in prices of food stuffs, in marketing, in care of food, in its function and in its preparation, and she plans with the home keeper a dietary which can actually be purchased and one which she knows to be suited to the family's needs. Any protests to the effect that the plans are beyond the family purse are met in the following manner: the instructor buys and cooks the various articles that make up the dietary, she uses the utensils at hand and the family partakes of the results of this very practical "dietary study" and at this point the woman is usually convinced, and, let us hope, adopts the new ideas.

If the gain in health and increased working-power which may logically be expected do actually follow, might not increasing the number of dietitians put this work definitely among those forces which make for civic and national betterment?

EDITORIALS.

The Dietitian's Opportunity

We publish in this issue three articles bearing on the work of the professional dietitian. Each of these articles, in one way or another, emphasizes the opportunity for useful service which is open to the professional dietitian. In the call for teachers of domestic science and other branches of home economics, we must not lose sight of the fact that there is an urgent call for trained directors of the commissary departments in hospitals, college dormitories and other institutions, for visiting experts who can go into needy quarters of our cities and instruct individual families; and in general for the person who can furnish a balanced and practical judgment based upon specialized knowledge of food and nutrition in its application to the family and institutional dietary. If we mistake not, the professional dietitian has one of the most useful and promising fields open to workers in home economics, and students who are considering the choice of a specialized line of work may well take into account the opportunities for service in this particular field.

Local Organizations.

Teachers and other professional workers in home economics are urged to form local organizations affiliated with the American Home Economics Association. The essential requirement is a group whose aims coincide with those of the American Association. All members of local societies are urged to join the American Association; membership in the American Association is by individuals and not by societies, and persons so joining receive the JOURNAL OF HOME ECONOMICS as a privilege of membership. Any local home economics association which includes ten persons with paid up membership in the American Association, is entitled to elect a member to the council of the American Home Economics Association. The local societies which are already seeking affiliation include the Association of Domestic Science Teachers of New York City, the Home Economics Association of Greater New York, the Pacific Coast Conference on Home Economics, and organizations which are being planned in Boston, Cleveland, Buffalo, and Lewis Institute.

Denver Meeting. The suggestion was made at the Washington meeting that the American Home Economics Association should hold a meeting in connection with the National Education Association at Denver in July, endeavoring to bring together the workers of the far west, and also of the east who could attend, in a program dealing largely with educational questions. This meeting would not be part of the National Education Association program, but would occur during the week of the National Association meeting, and through the courtesy of that organization. The arrangement of the Denver meetings will doubtless soon be taken up by the executive committee of the Association, and suggestions will be cordially welcomed by the officers of the Association.

Control of Market. The responsibility of the consumer for the grade of goods offered in the market is suggested in this query: "Are the schools of domestic science and the women's clubs always going to accept meekly the articles that manufacturers choose to place before them in the shops? By co-operation it should be possible in a few years to drive out of the stores ornate cook-stoves, tin and glass utensils with rough edges that cut the hands while using and washing, saucepans made for left-handed persons, and pitchers that cannot be washed inside, and many other appliances that hinder the routine tasks of the household or make their performance unpleasant."

The Davis Bill. The convention at Washington took action approving the general provisions of the "Davis Bill" which proposes Federal aid for vocational education. Since the Convention adjourned the bill has been further revised, and it is believed improved. While action on the bill can scarcely be expected in the remaining days of Congress, the members of the Association will do well to inform themselves regarding its provisions and take such active steps as they can in its support.

The JOURNAL has been requested to print articles on school lunch rooms, and also reports of what various women's clubs have done this year in home economics.

Copies of the photograph, which appears as a frontispiece, may be secured at seventy-five cents.

ILLUSTRATIVE MATERIAL FOR DOMESTIC SCIENCE,

Successful teaching in domestic science depends to a considerable degree upon the use of suitable illustrative material. Especially is this true in the teaching of foods, and nowhere more than in the discussion of marketing. A partial list of suggestions is made herewith, in the hope that other suggestions may be contributed.

There are at present quite a number of meat charts and illustrations of cuts of meat available for the domestic science teacher. Several of these have been published by different schools of domestic science and can be purchased from them. The individual teacher can often make her own charts on brown paper or on cloth, coloring them as desired with water colors. Some of the government bulletins contain well-drawn illustrations of cuts of meat which could be reproduced in this way. A drawing instrument called the pantagraph, which reproduces a drawing on a larger scale, might well be included in the equipment of domestic science teachers; it would be found useful for the enlarged reproduction of illustrations. Another way to utilize the illustrations found in the government bulletins, is to make blue-print reproductions of them which can be distributed to the individual members of the classes. Some of the following bulletins will be found especially useful with regard to illustrations for copying: Farmers' Bulletin, No. 34, Meats—Composition and Cooking; Farmers' Bulletin, No. 183, Meat on Farm—Butchering and Cutting; Bulletin No. 28, revised, Chemical Composition of American Food Materials.

Among the larger charts which are available for domestic science instruction, mention should first be made of those produced by the Pratt Institute of Brooklyn, New York, illustrating beef, veal, mutton and pork, and which cost ten dollars. The Domestic Science Department of Teachers College, Columbia University has also issued certain plates which are reproduced and which can be obtained either on paper or cloth. They represent the hind-quarter of beef, and the whole animal. The prices for these prints which are 2x3 ft. in size are as follows:

Blue-print, on paper, \$.75; blue-print, on cloth, \$1.00; black-print, on paper, \$1.25; black-print, on cloth, \$1.50; for mounting and painting, \$.75 extra.

Teachers College also issues a small blue-print giving five pictures of various cuts of meat for twenty-five cents, also a set of six black-and-white photographs of cuts of beef "New York cuts," each 4x9 inches, at seventy-five cents for the set. Two charts giving small cuts of beef and mutton, made in Brussels, Belgium, can be obtained from Whitcomb and Barrows, Huntington Chambers, Boston, Mass., at \$1.00 each.

Under the head of illustrative material for domestic science one should mention photographs and lantern-slides, illustrating foods and their manufacture and production, public markets and other related topics. Various firms furnish such slides and photographs. A set of twenty-one slides on the Respiration Calorimeter, reproduced from a Carnegie Institution publication, can be secured from the Educational Museum of Teachers College for \$8.40.

Readers who have found other illustrative material of use are asked to send information regarding it to the JOURNAL.

Housekeepers of Washington The Housekeepers' Alliance of Washington, D. C., is investigating the subject of domestic service this winter. According to a statement recently adopted by the Club, present unsatisfactory conditions in household service are due in part to the following causes: 1, Inadequate training and lack of proper relations between employer and employee; 2, Lack of a reference system; 3, Lack of proper recognition of long terms of service; 4, Unsanitary lodgings with attendant harmful influence upon health, morals and efficiency for those who must lodge away from the home of the employer.

As remedies, the Alliance suggests better knowledge of conditions of work among employers, a training-school for employees, the adoption of a "reference system" whereby all members of the Alliance shall keep a definite record of their employees, an Honor Roll for efficient employees who have been in service for long terms, and efforts to improve housing conditions of the working class. The Alliance has also gone on record as recommending the wearing of washable garments rather than woollen, in the performance of household work.

The Club has had a number of meetings on this general topic, a typical meeting being the recent one addressed by Mrs. Mary Hinman Abel, of Baltimore, on the "German Reference System for Household Employees."

The Alliance has taken up the work of a committee of women who had already equipped a kitchen for the training of domestics and plans to open a sanitary laundry immediately. Under the leadership of Miss Emma S. Jacobs, Director of Domestic Science in the Public Schools, a class has been formed which meets bi-monthly for the study of Household Economics.

DOMESTIC SCIENCE IN NEW YORK CITY SCHOOLS.

The JOURNAL is glad to print the following communication from the Director of Domestic Science in the New York City Schools. Similar statements from other cities would be of interest.

To the Editor JOURNAL OF HOME ECONOMICS.

I received so many inquiries regarding the extension of Domestic Science in the public schools of New York City during our visit to Washington for the purpose of organizing the American Home Economics Association that I felt that I could best fulfil, through the JOURNAL, my promises to send such information to those who inquired.

In 1888, when Domestic Science was introduced experimentally into the schools of New York City, it was taught in only one borough—Manhattan, and only in nine elementary schools. During the eight years from 1888 to 1896, only two schools were added, making a total in 1896, when the Director was appointed, of 11 schools. Today, twelve years after the appointment of the Director, the subject is taught in all the boroughs and in 174 elementary schools as follows: Manhattan, 64; Bronx, 20; Brooklyn, 46; Queens, 32; Richmond, 12. In addition to this extension in elementary schools the work has been further extended to the following high schools: Washington Irving High School, 12th St., Manhattan and its three annexes—13th St., 82d St., and Grand St.; the Manual Training High School, Brooklyn; Eastern District High School, Brooklyn; Bryant High School, Brooklyn; Training School, Brooklyn. In addition, it is most gratifying to be able to report that the Committee on High Schools of the Board of Education has this year granted the application of the director for the further extension of Domestic Science into all high schools. Besides the day schools we have in New York 35 evening elementary and 5 evening high schools, and 27 vacation schools.

This remarkable growth of domestic science in the New York public schools is due, of course, to its increase in popularity with the Board of Education and with the public, but to gain this popularity has always required patient, persistent effort on the

part of the Director, and ability, devotion, self-sacrifice and enthusiasm on the part of the teacher, crowned by absolute unity between them. It has won approval on its merit as a moral factor in education. Even to the officials in immediate charge of the courses of study, an appeal upon a scientific basis seldom succeeds. One man was heard to say, "Well, if you have not teachers who can teach a class to make and bake bread in eighty minutes you had better get a new set." That it finds favor upon a moral basis is shown in many ways. So eminent an authority as Sir Lauder Brunton of London, England, in his lectures to the London physicians, said, in a quotation often used by the Director in appealing for an extension of Domestic Science:

"Some may think that, in speaking of cookery as a moral agent I am greatly exaggerating its power, and they may regard it as idle folly if I go still further and say that cookery is not only a powerful moral agent in regard to individuals, but may be of great services in regenerating a nation. Yet, in saying this, I believe I am speaking quite within bounds, and I believe that schools of cookery for the wives of working men in this country will do more to abolish drinking habits than any number of tee-total associations. I do not at all mean to say that the vigorous efforts of tee-total societies—Good Templars, Blue Ribbon Army and others—have been altogether a failure, but I do not think that their plan will ever be crowned with complete success, and I believe there is a better way of obtaining their object."

The replies called forth by a little pamphlet entitled "The Mission of the Ideal Woman," issued by the Director, demonstrates the public attitude towards Domestic Science. This pamphlet gives one of the Director's favorite definitions of Domestic Science—Motherhood. One Commissioner of the Board of Education writes:

"Domestic Economy has been to me a subject of great interest in connection with the education of our girls. My own convictions are so strong that I would put it as the culminating course in every woman's education. The effect of this branch of education would be the greatest force in overcoming idleness, thriftlessness and vice, that we could introduce into our curriculum."

Still another member of the Board of Education writes:

"Could all mothers be like Rollo's (The Ideal Woman) we should need no truant schools, no defective classes, and no part-time classes. It is much more difficult, however, to make old mothers over than to form new mothers in the right way from our younger generation, and that work must be slowly and patiently accomplished through your department mostly."

Some Domestic Science teachers become discouraged because school officials do not seem to appreciate the value of the scientific side of the work in our schools. But to me, that seems immaterial so long as they place the teaching in the hands of experts, and permit them to impart a knowledge of the theory as well as the practice of housekeeping. For instance what does it matter whether the Board with the power to adopt courses of study thinks that bread can be made and baked in twenty minutes so long as it permits us to give the following lessons which appear in our New York course of study:

"Bread. Study of Yeast; effects of mixing, kneading, rising. Relation of Yeast Bread to Quick Bread. Comparative Study of Flours; digestibility and food value of yeast breads and quick breads; baking powder; generation of gas by acids and carbonate alkalies; resulting salts; adulteration.

Here, as in every branch of the course—cooking, housekeeping, laundry and nursing lessons, we have ample opportunity for the teaching of bacteriology, physiology, chemistry and physics, and their resultant effects on economy and health to the household, and we know that the next generation of housekeepers will have a better appreciation of the *science* of home-making; that we are qualifying the future mothers for this intelligent appreciation, and that school boards are in duty bound to so equip their students for the work in life. I will conclude with an excerpt from a report to the Board of Superintendents dated November 9th, 1908:

"The Domestic Science course in the elementary schools is the training course for the mothers of the future. Every New Yorker knows that Training Schools are provided by the Board of Education where high school graduates who wish to become school teachers, receive two years special training for that profession. But very few of our citizens, even the parents of public school children, know that a special training for teachers in the larger and much more important school, the home, is given to the classes of the last two years of the elementary schools. A large majority of these pupils who are prepared for teaching in the greater school, never go to the high school nor the training school and more is the pity. Most of them become teachers in the great school of the home—trainers in their turn of the next generation of children who will fill our schools. Not alone are they trainers, as are other teachers, but the very authors of the beings whom we receive into our schools, and who are but the reproductions of the home teachers we have graduated. For these home teachers trained in our elementary schools are the first to marry.

They enter into the duties of their profession much earlier and in much greater numbers than those other teachers whose work is confined to the classroom, and their duties and responsibilities are far greater in the making of good citizens. They become the first teachers of the nation—the mothers.

"All the other teachers are but assistants to the head teacher, the mother. She has the exclusive care of the child's education for the first five years of its life before it reaches the school teacher—years in which the whole health, physical, mental and moral, is in large measure made or unmade for the future. After the fifth year she still holds the controlling influence over the child's life. Surely she should be well equipped for such important work."

Jan. 29, 1907.

MARY E. WILLIAMS,

Director of Domestic Science, New York Public Schools, and of Summer Course of New York University.

A Bakers' Institute

A "Bakers' Institute" was held at the University of Wisconsin in October under the direction of the University Extension Division which brought together a great many professional bakers from all over the state. A very practical program was arranged including papers and discussions on the following topics:

Bakers' Raw Materials from the Standpoint of National and State Pure Food Laws; Wheat, and the Inner Structure of the Grain as Related to Flour and Bread; Varieties of Wheat as Related to Flour Making; Milk and Cream—Composition, Care, Testing; Flour, Composition, Varieties, Methods of Testing; Fermentation in Bread Making—Yeasts, Malt Extracts; The Mutual Interests of Baker and Housekeeper; Sanitary Delivery of Bakers' Products; Food Value of Bread; Baking Tests, Practical Demonstrations; and Bake Shop Hygiene and Sanitation.

The speakers included representatives of the United States food laboratories, University of Wisconsin, United States Department of Agriculture and the City Health Departments. The Institute was a great success. Director Louis E. Reber said: "The bakers were very much pleased with what they got from it and the interest which they manifested during the entire eight sessions was really remarkable. They are clamoring for another institute. We expect to continue this kind of work with them."

BOOKS AND LITERATURE.

NOTE—Any of the following books can be ordered through the Journal of Home Economics, 525 W. 120 St., New York City, at the publishers price.

Lake Placid Conference on Home Economics. Proceedings of the Tenth Annual Conference, by special invitation held at Chautauqua, N. Y., 6-10 July 1908. pp. 218. Lake Placid Club. Essex Co., New York. Price \$.50.

The Report of the Proceedings of the Tenth Annual Meeting of the Lake Placid Conference on Home Economics is a valuable contribution to the literature on the subject. The outline of that session held at Chautauqua, N. Y., July 6-10, 1908, includes a wide range of topics discussed as has been customary at these conferences. A comprehensive survey of the work in home economics, as carried on at present in all the provinces of Canada, was given by representatives from the different schools and colleges. An outline and discussion of secondary school courses and courses which might be offered as college preparatory work was presented in the report of the Teaching Section meetings. Progress toward recognition of the work in this subject, as of a nature for which college entrance credit may be given, was reported. Miss Day of the University of Missouri gave an outline of a "general survey course" in home economics which ought to inspire any student to desire a fuller course after taking it.

The report of progress in food and nutrition by Dr. Langworthy is most valuable. It outlines all the experimental work of the year, gives a list of government bulletins issued during the year and refers to the books and articles published elsewhere which the student of nutrition should know.

The study of textiles as presented by Miss Crooks should certainly have, as was suggested in the discussion following its presentation, wide publication and discussion in women's clubs "as an aid toward labeling or standardizing textiles similar to the pure food laws."

To many, Mrs. Richards' address upon the history and aims of the Lake Placid Conference through the ten years since its organization will have peculiar value and interest. As the leading inspiration of the Conference from the first, Mrs. Richards in her resumé presents the steps of progress until the Lake Placid Conference was merged into the new American Home Economics Association. Those interested in the growth of the movement could find no better statement of it.

These are but a part of the valuable articles included in the volume.—
Bertha Terrill.

Human Foods. Harry Snyder, B.S., pp. 325, illustrated. MacMillan Co.

Mr. Snyder is Professor of Agricultural Chemistry in the University of Wisconsin, and prepared this book as a textbook for his own students. It takes up the principles of human nutrition; the common foodstuffs; some of the physical, chemical and bacteriological changes which affect the

digestibility and nutritive value of foods; dietary studies; comparative cost and value of foods; experiments and laboratory practice. The chapter on food as affected by household sanitation and storage is excellent. It gives a concise presentation of the subject from the home point of view which is concerned with keeping people well, rather than with the cure of disease. The arrangement is admirable, and the book will meet the demand for a textbook of moderate size and price.—Mary Urie Watson.

How the World is Fed. Frank George Carpenter. pp. 362, illustrated. New York: American Book Company. Price \$1.60.

This is a standard supplementary reader in which the author takes the children on personally conducted tours to the great food centers of the world. Its purpose as indicated in the preface is to give "a knowledge of the production and preparation of foods and to show how civilization and commerce grew from man's need of foods and the exchange of foods between the different nations of the earth." It is an admirable book which would be very useful in connection with elementary and secondary school classes in cookery.—Edna L. Skinner.

Applied Physiology. Robert Hutchison, M.D., F.R.C.P. pp. 289. Edward Arnold. London. Price \$2.

Robert Hutchinson's "Food and Dietetics" is familiar to most Home Economics teachers. They will do well to add this volume to their libraries for the sake of three chapters, namely the chapters on the applied physiology of metabolism, on digestion, and on excretion. These will prove of value to dietetic students in particular.—Mary Urie Watson.

Seven Centuries of Lace. Mrs. John Hungerford Pollen, 120 full-page illustrations, MacMillan & Co., New York; William Heineman, London, 1908. Price \$7.50.

As Alan C. Cole says in his preface, the illustrations in this book make it a "valuable encyclopaedia of the designs and textures to be seen in laces and cognate fabrics." The description of the plates together with the very full glossary would mean much to a student of lace. Mrs. Pollen has studied the development of lace and traces the stitches used from the Coptic embroideries of the third to fifth century up to the middle of the last century; and presents illustrations of work during the last seven centuries. She divides laces into two classifications, needle and bobbin, and each plate is described with reference to the method used, the design, and the approximate date. The book is an excellent one for reference.—Elizabeth Sage.

Die Unterscheidung von Baumwolle und Leinen (How to Distinguish between Cotton and Linen) by Prof. Dr. Alois Herzog, Head of the Department for the Investigation of Flax, in the Prussian Higher Technical School for Textiles at Sarau, Nieder Lausitz. Second Edition, Pamphlet 35 pages, 25 illustrations, price 1.50 marks (\$1.40). Published by the Verlag für Textile-Industrie, Berlin, Germany.

This small pamphlet of 35 pages, is a condensed, practical statement of the best means of testing materials made by the union of cotton and linen, and cottons finished to appear like silk either by the finishing processes or by mercerizing. These tests are taken from different authors and experts to whom credit is given. The book is, in a great measure,

intended for those who are not technically trained, but who need such knowledge in the carrying on of their business. The tests are divided into two main classes, those which can be made without a microscope, and those that require one. Most of the tests are accompanied by two unusually clear photographic illustrations, showing in magnified form the details of each result. These illustrations make the pamphlet of great value. There are also two colored plates.

Among the physical tests are: the tearing of cotton and linen fabrics, the untwisting of the linen and cotton threads, oil tests, tests by light. The results of these tests are carefully discussed. The sulphuric acid methods are stated and especially, the chemical tests by dyeing. In the union fabrics, the cotton and linen fibres are distinguished by the different manner in which they take the dye. In the microscopic tests, after discussion of the nature of the difference between the two fibres, micro-chemistry is largely used in the experiments. There is no book in English on this subject, exclusively. This gives the work an added value.—Nellie Crooks.

The Methods of Textile Chemistry, being the syllabus of a lecture course adapted for use in textile laboratories, by Frederic Dannenrth, Ph.D., Consulting Industrial Chemist (formerly of the Department of Chemistry and Dyeing, Philadelphia Textile School). Publishers, John Wiley & Sons. New York. pp. 146. Price \$2.00.

This little book, a syllabus of the author's lecture course in Textile Chemistry, is the only small book of the kind published in English. It can be used by the student with or without some standard manual of chemical analysis. While written for advanced students of textile chemistry, it is so clear and definite that much of it can be used by the ordinary textile or chemistry student. It is divided into four parts: Part 1. Qualitative Analysis; part 2. Quantitative Analysis; part 3. Materials, processes and products; part 4. Glossary of all textile terms used.

Part 2 is the most valuable section of the book to the ordinary student, as it states the methods for analyzing mixed and adulterated fabrics. It gives methods for detecting chemically the adulteration of wool, and numerous methods for the analysis of cotton and silk, silk and wool, and waterproof fabrics. Tensile strength of yarn, and the tests to determine the fastness of dyed fabrics, are also given. A very full glossary completes the volume.—Nellie Crooks.

Home Problems from a New Standpoint. Caroline L. Hunt, pp. 145. Boston: Whitcomb and Barrows. Price \$1.00.

What the home may be as a factor in the development of the individual is effectively set forth in these pages. The topics treated are More Life for the different individuals of the family—the woman, the man, the household employee—through the elimination of the unessential and the development of special talents; More Physical Vigor for All; More Joy in Mere Living; More Beauty for All—with an admirable definition of simplicity as a means of adjustment of life, and not an end; More Pleasure for the Producer and More Conscience for the Consumer—the two aims

working together for brotherhood; and New Work for the Home—its relation to, and responsibility for, the outside world. The author has faith in the permanence of the home, whatever changes its outward form may undergo. "Home is the expression of affection," and the need of the home will never be less. Elimination, concentration, co-operation should not frighten us with visions of disrupted homes, but be recognized as opportunities for the simplification of the machinery and the development of the larger life. The book is permeated with a sane optimism, and should prove suggestive even to those who have read widely on this latter-day subject.—Gertrude Dibble.

Charities and the Commons. A weekly journal of philanthropy and social advance, Edward T. Devine, editor, New York and Chicago, price ten cents a copy, \$2.00 a year.

This magazine is the chief organ of a new movement which might be termed "social architecture." It presents each week all the important movements throughout the country tending toward the betterment of the common welfare. *Charities* was established some ten years ago as an organ of charity work in New York City, but under its present management it has become a national journal of social economy; and one may express the hope that some time the name of the journal may be changed to better express the field it covers. There is no other magazine published which comes so closely into touch with the whole field of home economics as *Charities and the Commons*. One of its most interesting projects at present is the publication of the *Pittsburg Survey* which appears in three large magazine issues of January, February, and March. This is the official report of what is perhaps the most complete and accurate representation of living conditions in a community yet made. Another recent article in *Charities* of typical interest is *Economic Dietetics* by Ira S. Wile, M.D., in the January 9th number. Dr. Wile, in this brief article urges that instruction in dietetics would cause:

(1) A reduction in the weekly cost of food; (2) A reduction in the waste of food; (3) A reduction in the indigestibility of foods.

As a result there would be:

(1) fewer improperly nourished, anaemic children; fewer tuberculous children; (2) fewer dyspeptic, neurotic adults; (3) Healthier homes; (4) More efficient workers; (5) A higher standard of living.

Articles on the standard of living in country and city, social work, book reviews, all manner of information of direct utility in home economics instruction, abound in this magazine. An instructor might well as one feature of a course in home economics, acquaint students with its contents. A single subscription would have great value for reference.—B. R. Andrews.

Lost Homes and New Flats, by Mrs. Annie Groser Hurd, *Fortnightly Review*, November, 1908.

This is a discriminating article on the present tendency to weaken the spiritual values in family life under urban conditions. "We are now-a-days always just coming or going, and a flat is specially constructed to get away from." * * * "Although it may be possible to make homes without kitchens, or babies, or flowers, or memories, or cupboards," many city

people are failing to do so, and the spirit of indictment drawn by Mrs. Hurd is just.

The December **Bulletin of the Kansas State Board of Health**, contains articles on "The Score-card in Sanitary Inspection Under the Kansas Food and Drugs law" by S. J. Crumbine, M.D., Chief Food and Drug Inspector, and "The Score-card in City Milk Inspection," by J. C. Kendall, State Dairy Commissioner.

Teachers of home economics will do well to inquire regarding the publications of their state board of health.

Daily Consular and Trade Reports, the Bureau of Manufactures, Department of Commerce and Labor, Washington, D. C.

These reports often contain information pertinent to the field of home economics; for example, the issue of Friday, November 18, 1908, has an eight page article on *Wages and Living Conditions of the Mill Operatives, Dundee Jute Industry*, besides useful briefer items as that on "Living Rates in Calcutta."

Salary Loan Business in New York City, by Clarence W. Wassam, Ph.D., with extracts from an Unpublished Report by Frank Julian Warner, Ph.D., New York. Charities Publication Committee, 1908. In paper, 75 cents.

This book reports an inductive study of one sub-topic of personal and family finance—the securing of loans on salaries. "That borrowing is often a necessity to those who have no means beyond their salaries and have no friendly source to which they can apply is plain. That such persons cannot afford to borrow on the onerous terms now offered by those who supply this need is equally plain. The loan problem for those who can borrow on the pledge of personal property has been partially solved in New York by the Organization of the Provident Loan Society (1894), and elsewhere by societies on like lines. This problem has evidently not been solved for those who have salaries and who have no personal property to pledge."

In one case reported, a man borrowed \$150.00 from loan companies in nineteen months, and paid for it \$665.00, with \$150.00 still due. Fear of exposure to employer keeps the victim in the toils. The author recommends as remedies: complete publicity; co-operation by employers to prevent extortion; complete confidence between man and wife regarding family finance (suggesting, by the way, the ethical element which home economics workers must emphasize increasingly); legislation regarding rates and conditions of loans; regulation regarding deceptive advertising. Finally, a protective law proposed for New York State is given. This study, which was made under the Russell Sage Foundation, admirably illustrates the way in which the various elements in individual and family finance, as indeed of all factors in social welfare, must be attacked singly and data compiled upon which remedial action may be based.—B. R. A.

Cyclopedia of American Agriculture, edited by L. H. Bailey, Cornell University; The Macmillan Company; price in four imperial octavo volumes, the set, cloth, \$20.00; half morocco, \$32.00.

The fourth volume has as its general theme, "the farm and the community." It should be of help to home economics teachers who deal especially with problems of rural life.

THE ELECTED OFFICERS.

An association newly formed brings many persons who are strangers to one another into its membership. While it would go beyond available space to give a biographical statement regarding each member, it has seemed a matter of real interest to print in the JOURNAL brief academic statements regarding the general officers and councilors-at-large who have been chosen to direct the business of the Association. These statements follow:

ABEL, MRS. MARY HINMAN, Charles Street ext., Baltimore, Md. A.B., Elmira College, Elmira, N. Y. Member of Board of Charities, Baltimore, and other institutions for public welfare; Founder with Mrs. Richards of the New England Kitchen; Chairman of Home Economics, Federated Clubs of Maryland. Author of: *Lomb Prize Essay for Healthful and Economic Cooking*; and Rumford leaflets; books and pamphlets on Nutrition and Home Economics.

ANDREWS, BENJAMIN R., Teachers College, Columbia University, 525 West 120th Street, New York City. A.B. Cornell University, 1901, A.M., 1903; Teacher in Elementary School, 1896-97; Supervisor Educational Museum of Teachers College, Columbia University, 1903-1906; Teaching Fellow, Teachers College, 1904-05; Director of Neighborhood Work, Speyer School of Teachers College, 1906-07; Secretary Departments of Domestic Economy, Teachers College, 1907-. Author of papers in *American Journal of Psychology* and in *Teachers College Record*.

ARNOLD, SARAH LOUISE, 9 Crescent Avenue, Newton Centre, Mass. Bridgewater, Mass. State Normal School; Tufts College, A.M. (honorary). General teaching all grades; Principal Training School for Teachers, Saratoga, two years; Supervisor of Schools, Minneapolis, seven years; Assistant Superintendent of Schools, Boston, seven years; Member National Council of Education N. E. A. Now Dean, Simmons College, Boston, Mass. Author of: *Stepping Stones to Literature* (series); *The Master Tongue* (series, with Prof. Kittridge of Harvard University); *Reading, How to Teach It*; various addresses as, "Reconcilement of Cross Purposes in the Education of Women," before N. E. A., 1908.

BERRY, JOSEPHINE, T., 208 College Avenue, DeKalb, Illinois. A.B., Kansas State University, '93; B.S. Columbia University, 1904. Librarian, Kansas State Agricultural College; Sup't of Public Schools, Waterville, Kansas; Instructor in Department of Household Administration University of Chicago; now, Director of Domestic Science, Northern Illinois State Normal School, DeKalb. Author of various public addresses not published.

BEVIER, ISABEL, University of Illinois, Urbana, Ill. Ph.B. Wooster, 1885; Ph.M. 1888; Summer School, Harvard, 1888; special student, Professor Atwater's Laboratory, 1894; Mass. Inst. of Technology, 1898; Principal High School, Shelby, O. 1885-1887; Mt. Vernon, O. 1887-1888; Prof. Natural Science, Pennsylvania College for Women, 1888-1897; Chemistry, Lake Erie Coll., Painesville, O. 1898-1899; Professor of Household Science and Head of Department, University of Illinois, 1900-. Ass't nutrition investigations, U. S. Dept. Agri., 1894-1899; member Jury of Awards, Columbian Expos., 1893; fellow American Association for the Advancement of Science, member Chem. Soc., Public Health Ass'n. Author of *Chemistry of Food; Science of Nutrition; Temperature in the Cooking of Meats; The House; Selection and Preparation of Food; Laboratory Manual on Food and Nutrition*; (with Miss Usher) *The History of the Home Economics Movement*.

BOUTON, ROSA, Home Economics Hall, University Farm, Lincoln, Nebraska. B.Sc., A.M., Nebraska State University. Adjunct Professor of Chemistry, University of Nebraska; now, Professor of Home Economics in the University of Nebraska. Author of: newspaper articles; *Home Study Series No. 1, Convenient Kitchens, and No. 2, Food a Factor in the Home; Cereals and How to Cook Them*.

DAY, EDNA D., 906 Conley Ave., Columbia, Mo. B.S. (in biology) University of Mich., 1896; M.S. (in botany, embryology and hygiene) University of Michigan, 1897; Student under Prof. Bevier, University of Illinois, 1903-04; Ph.D. (household administration, physiological botany and sociology), University of Chicago, 1906. Teacher of science, Kent Place School for Girls, Summit, N. J. and in N. Tonawanda, N. Y.; Teacher of biology, chemistry and home economics, three years, Lake Erie College, Painesville, Ohio; Teacher of botany, physiology and bacteriology in Domestic Science Department at Chautauqua, N. Y. five summers; Instructor in home economics, School of Education, University of Chicago, summer 1905. Now Ass't Professor in charge of Department of Home Economics, University of Missouri, Columbia, Mo. Author of: Bulletin No. 212, Office of Experiment Stations, *The Digestibility of Starch as Affected by Cooking*; A pamphlet on *A Model Kitchen*; *A General Survey Course in Home Economics* in Proceedings of Lake Placid Conference on Home Economics, 1908.

ELSON, WILLIAM H., Superintendent of Schools, Cleveland, Ohio. A.B. Indiana University. Superintendent of Schools, Grand Rapids, Michigan; Superintendent of Schools, Superior, Wisconsin; now, Superintendent of Schools, Cleveland, Ohio. Author of numerous articles in magazines, Proceedings of N. E. A. etc.

GEARING, MAMIE E., No. 5, The Savoy, Houston, Texas. Special work, Mrs. Janet Hill, Boston, Mass. Domestic Science course, Mrs. J. D. Gibson, former Director Domestic Science, Dayton, Ohio, schools. Summer work, Teachers College and Columbia University, 1906-07-08. Teacher Domestic Science, Houston Schools; Supervisor, Domestic Science, High School, Houston. Now, Director Domestic Science Public Schools, Houston, Texas.

GULDIN, MRS. OLAF N., 2306 Fairfield Ave., Fort Wayne, Ind. Graduate of the Fort Wayne High School, also of Buchtel College, Akron, Ohio. Now, Chairman of the Home Economics Department General Federation Woman's Clubs; President Woman's League, Fort Wayne, Ind.

HUNT, CAROLINE L., 119 Main Street, Madison, Wis. A.B., Northwestern University, Evanston, Ills. Teacher Domestic Science, Lewis Institute; Professor of Home Economics, University of Wisconsin. Now, Editor Home Department La Follette's Weekly Magazine. Author of: *Home Problems from a New Standpoint*; and various papers in *Proceedings of Lake Placid Conference*, and in magazines.

JACOBS, EMMA SUTER, 3509 11th Street, N. W., Washington, D. C. Washington Normal School; trained in Domestic Science under Mrs. A. L. Woodbury. Teacher of Cooking from 1887-1891, Director of Cooking 1891-1903, Director of Domestic Science from 1903- in the Public Schools, Washington, D. C.

KINNE, HELEN, Teachers College, Columbia University, New York City. Diploma, Teachers College. President New York City Home Economics Association. Now, Professor of Domestic Science, Teachers College, Columbia University. Author of various papers in *Teachers College Record*, *Proceedings of Lake Placid Conference* and other publications.

KOBER, GEORGE MARTIN, 1819 Q Street, Washington, D. C. M.D., LL.D., Georgetown University. Physician and Surgeon. Fellow A.A.A.S., Wash. Acad. of Sciences; Member of Association of American Physicians; Member of President's Homes Commission. Now, Prof. of Hygiene and Dean School of Medicine, Georgetown University, Washington, D. C. Author of: *Milk in Relation to Public Health*; *House Sanitation*; *Industrial Hygiene*; *Social Betterment* and forty-five monographs on sanitary and such subjects.

LANGWORTHY, CHARLES FORD, U. S. Dep't of Agriculture, Washington, D. C. Graduate Middlebury, Vt. College, 1887, A.M., 1900; student in chemistry, 1889-1893; Ph.D., Emperor William University, Strassburg, 1893. Instructor Chemistry, Wesleyan University, Conn., 1893-1895; member American Society, American Forestry Association, Society Colonial Wars, etc.; Associate Editor, Experiment Station Record, 1895-. Author of: *Digest of Metabolic Experiments* (with W. O. Atwater); *Occurrence of Aluminium* (with Peter T. Austen); Writer of and contributor to bulletins Dep't of Agriculture; Contributor to *New International Encyclopedia*, 1902-03; *Encyclopedia Americana* and to chemical and other journals.

MARLATT, ABBY L., Technical High School, Providence, R. I. Master of Science; Special graduate student in psychology at Clark University and in bacteriology at Brown University; Lecturer before clubs and in university extension work; Chair Home Economics in Utah College, at Logan, Utah; Now, Director of Household Economic Department, Technical High School, Providence, R. I. Author of: Articles on Educational Value of Home Economics in magazines, *Proceedings of Lake Placid Conference*, and N. E. A.

MENDEL, LAFAYETTE BENEDICT, 18 Trumbull St., New Haven, Conn., A.B., Yale, 91, Ph.D., 93; Breslau, 95-96; Freiburg, 96. Ass't. physiological chemistry, Sheffield Scientific School, Yale University, 92-94; instructor, 94-97; assistant professor, 97-03, professor and member Governing Board, 03; Soc. Nat; Physiol. Soc; Soc. Exp. Biol. and Med; Conn. Acad. Now, Professor Physiological Chemistry, Yale University. Author of: *Chemistry of Digestive Processes; Nuclein Metabolism; Lymph Formation; etc.; Uric Acid Formation and Nuclein Metabolism, Physiological Action of Nucleic Acid and Protein Derivatives; Functions of the Spleen; Chemistry of Growth; Physiology of Excretion, etc.*

MULLIGAN, CATHARINE ARCHER, State College for Women, Tallahassee, Florida. A.B., Converse College, Spartanburg, S. C., 1895; student Oread Institute, Worcester, Mass. 1901-1902; teacher domestic science, Georgia Normal and Industrial College, Milledgeville, S. C., 1902-1904, Winthrop Normal and Industrial College, Rock Hill, S. C. 1904-1908. Summer School of the South, Knoxville, Tenn., 1908; Head of Department of Home Economics, State College for Women, Tallahassee, Florida, 1908. Author of *Plain Cookery*, (Bulletin No. 1, issued 1907 by Winthrop College, Rock Hill, S. C.)

NORTON, MRS. ALICE PELOUBET, University of Chicago, Chicago, Ill. A.B., Smith College, 1882, A.M., 1897; Student Mass. Institute Technology, 1896-7; Graduate Boston Normal School of Household Arts, 1896; Teacher Domestic Science, Brookline Mass. High School, and Supervisor of Grammar School work, 1896-1900; Teacher Chicago Institute, 1900-01; Lecturer at Harvard School of Sociology, 1894; Lecturer at Lasell Seminary, Auburndale, Mass. on house sanitation, 1893-9; Lecturer at Y. W. C. A. School of Domestic Science, Boston, 1895-1900; Lecturer at Boston Cooking School, 1898-1900; Director Chautauqua School of Domestic Science, 1900-1904; Now, Assistant Professor of Household Administration, University of Chicago, 1901-. Author of: *Food and Dietetics*; Articles, in *Elementary School Teacher, Smith College Monthly*, etc.

PATTEN, SIMON N., Ph.D., LL.D., Logan Hall, Philadelphia, Penn. Professor of Political Economy, University of Pennsylvania. Author of: *Development of English Thought; The New Basis of Civilization.*

PINCHOT, GIFFORD, 1615 Rhode Island Avenue, Washington, D. C. A.B., Yale, 1889; Nancy, '90. Consulting Forester, '92-98; in charge of forestry, Biltmore Estate, '92-94; Member National Forest Commission, National Academy, '95-96; confidential forest agent to Sec'y. of the Interior, '97; Member Committee on Organization of Government Scientific Work and of Commission on Public Lands, '03; on Government Dep't Methods, '05; Member Country Life Commission, 1908; Hon. A.M., Yale, '01; Princeton, '04. F.A.A.; Forestry Association; Society of Foresters; Society Prom. Agr. Sci.; Min. Eng.; Civil Eng.; Nat. Geog. Soc.; Am. Geog. Soc.; Econ. Assn.; Wash. Academy; Forester, U. S. Department Agriculture, 1898-.

PUTNAM, GEORGE A., Parliament Buildings, Toronto, Ontario, Canada. B.Sci. Agr., Ontario Agricultural College, Guelph, Ontario.

Secretary of Agricultural College, Guelph, Ontario. Now Superintendent of Farmers' and Women's Institutes for Province of Ontario. Author of: Compilation of Annual Reports of the Department, and occasional articles therein.

RICHARDS, ELLEN H., Mass. Institute of Technology, Boston, Mass. A.B., Vassar, 1870; A.M., 1873; S.B., Massachusetts Institute of Technology, 1873; instructor, Woman's Laboratory, 1876-84; instructor in sanitary chemistry, Massachusetts Institute of Technology, 1884-; chemist in charge, Massachusetts State Water Supply Investigations, 1887-98; Chairman Lake Placid Conference on Home Economics; author of *Chemistry of Cooking and Cleaning*, 1882; *Home Sanitation* (with Talbot) 1887; *Food Materials and their Adulterations*, *Cost of Living*, *Cost of Food*, *Cost of Shelter*, *Air, Water, and Food*; *The Art of Right Living*; *Sanitation in Daily Life*; *First Lessons in Food and Diet*; *Cost of Cleanliness*.

SABIN, ELLEN, C. Milwaukee-Downer College, Milwaukee, Wis. Student University of Wisconsin, 1865-68; A.M. (honorary) University of Wisconsin, 1895; Principal grammar school, Madison, Wis., 1869-73; Teacher and Principal grammar school, Portland, Oregon, 1873-1885; in Europe 1885-6; Supt. city schools, Portland, Oregon, 1887-90; Pres. Downer College, Fox Lake, Wis., 1891-1895. President Milwaukee-Downer College 1895- . Juror of Educational Exhibit, World's Columbian Exposition, 1893; Member National Council Education, 1886-1899; Member N. E. A., Wis. State Federation of Woman's Clubs; Chairman Committee on Education of Federation of Women's Clubs for Los Angeles Meeting.

SMEDLEY, EMMA, 6 East Front Street, Media, Penn. Diploma, Normal Domestic Science Course, Drexel Institute, Phila., Penn.; Instructor in Dietetics, Johns Hopkins Hospital, Baltimore, Md. Now, Instructor Household Economics, Drexel Institute, Philadelphia, Penn. Author of: *Institution Recipes*.

SNOW, MARY S., Pratt Institute, Brooklyn, N. Y. Ph.M., University of Maine (honorary). Principal of City Training School for Teachers, Superintendent of Schools, Bangor, Maine. Now, Supervisor of Practice Teaching and Instructor in Normal Methods, Department of Domestic Science, Pratt Institute.

STONER, MINNA A., University of Wyoming, Laramie, Wyoming. B.Sc., South Dakota State College; Normal diploma, Boston Normal School of Household Arts, now the Mary Heminway Department of Household Arts, Framingham, Mass. State Normal; Research work at University of Tennessee, 1897, at Wesleyan University, 1902, at University of Minnesota, 1907. Investigations in Domestic Art. Instructor of Domestic Art, University of Tennessee, 1896-1898; Dean of Women and Professor of Domestic Science, Kansas State Agricultural College, 1898-1901; Prof. of Domestic Science and Head of Department, Ohio State University, 1901-1907. Now, Dean of Women and Professor of Domestic Science, State University of Wyoming, 1907- . Author of articles in magazines on Sanitation, and in various college and other publications;

Departmental Bulletins, University of Wyoming; and study outline for State Federation of Women's Clubs.

WATSON, MARY URIE, Macdonald Institute, Ontario Agricultural College, Guelph, Ontario, Canada. Graduate of Philadelphia Cooking School, Philadelphia, Penn.; Graduate of Teachers College, Columbia University, New York City. Public school domestic science teacher in Hamilton, Ontario, and St. Louis, Missouri. Principal Ontario Normal School of Domestic Science and Art, Hamilton, Ontario; Now, Director of Home Economics Department, Macdonald Institute, Ontario Agricultural College, Guelph, Ontario.

WILLIAMS, MRS. MARY E., 123 West 183d St., University Heights, New York City. Graduate of St. Mary's Academy, N. Y.; Extension course for training of teachers, Normal College, N. Y. City; Special English course with William L. Evans, LL.D. (of University of Edinburgh, Scotland), St. David's Hall, Scarsdale, N. Y.; three year complete course in literature with Thomas Gaffney Taaffe, M.A., Ph.D., lecturer and professor of English, College of the City of New York; two summer courses and one extension winter course in biology and two summers in chemistry at the New York University; course in physiology under Dr. Strong of the Infants Hospital; private course with privilege of normal class work one year at Teachers College; Diploma from Philadelphia Cooking School; course in microscopy under Prof. Jonathan Hyatt, Pres. Microscopical Society and Principal of P. S. G., Bronx, New York; course in interior decoration under Miss Sarah Cannon, Instructor in Manual Training, Public Schools of N. Y. Previous positions: teacher of domestic science in the public schools of New York City; Principal of School of Telegraphy, Cooper Institute, N. Y. City. Now, Director of Domestic Science of the Public Schools of New York City, and Director of Domestic Science, New York University, Summer School, New York. Author of: "*Textbook on the Theory and Practice of Cookery*," Macmillan Co., N. Y.; Pamphlets on "*The Making of the Home Maker*," "*The Mission of the Ideal Woman*," "*Domestic Science as an Educational Factor*," "*Domestic Science as a Moral Agent*," and various newspaper articles. Delivered course of lectures at mothers' meetings on domestic science in public schools, mothers' clubs and temperance societies in New York and vicinity; on home economics, Brooklyn Institute of Arts and Sciences and Drexel Institute, Philadelphia; visited professionally the schools in London, Paris, Berlin, Dresden.

WOOLMAN, MARY SCHENCK, 21 West 101st Street, New York City. B.S., Columbia University; University of Pennsylvania, two years in attendance. Many investigations of conditions of women and their education in Europe and Great Britain. Now, Professor Domestic Art, Teachers College, Columbia University; Director of the Manhattan Trade School. Author of: *Sewing Course* [fourth edition], monographs and numerous articles in magazines, and periodicals."

NEWS FROM INSTITUTIONS.

University of Chicago Although the Department of Household Administration of the University of Chicago was organized only a few years ago and has recently raised its requirements for admission, during the last Autumn Quarter there were more registrations in its senior college courses than in sixteen other departments of the University, while there were seven departments that had fewer graduate registrations.

During the past year more students received advanced degrees in the department of Household Administration of the University of Chicago than in fourteen other departments of the Graduate school. The candidates and their thesis subjects were Miss Jenny H. Snow of the University of Chicago, "An Experimental Study of the Effects of Different Temperatures and Different Amounts of Sugar on Fruit Juices," Miss Bertha Mary Terrill of Hartford, Conn., "A Study of Household Expenditures"; and Miss Anna Roberta Van Meter of the University of Illinois, "The Functions of the Trade Mark."

University of Illinois Through the generosity of the Legislature of the State of Illinois, the Department of Household Science of the University of Illinois has been able to open a research laboratory in connection with this department. The object of this laboratory is to investigate the scientific reasons for domestic processes that are matters of common use among housewives. In connection with this laboratory the services of a trained chemist, Miss Goldthwaite, Ph.D., have been secured. During the present year the chemistry of jelly-making has been under investigation, and it is hoped soon to publish some articles upon this subject—one, an article dealing with the subject from a scientific standpoint, the other a more or less popular one. Later it is proposed to continue the work in bread and yeast to which the department has already given much attention.

At the High School Conference held in November 1907, at the University of Illinois a desire was expressed to have a syllabus of domestic science for the high schools of the state for the sake of unifying the work, and a high school assistant who should be ready to give suggestions concerning equipment and courses of study. At the next meeting of the High School Conference held in November 1908, the committee appointed the previous year reported that the syllabus had been made and distributed and much interest manifested in it. Miss Pincomb, the high school assistant, reported that in one third of the counties of the state domestic science was taught to the extent that a special teacher is hired and that 43 of the 534 high schools in Illinois are teaching domestic science.

The Experimental House of the University of Illinois was opened to the public with an exhibit January 20, 1909. The house is to serve a two-fold purpose, viz., as a laboratory for undergraduates in the subjects of house planning, equipment and care; second, it is to afford for advanced stu-

dents an opportunity for experiment and demonstration in the large field of house construction and equipment, on sanitary, artistic and economic lines. At this exhibit two kitchens and three bedrooms fitted at different expense were shown, as well as two dining and two living rooms for the same expense, but in different taste; also many household appliances. This first exhibit was made largely for the benefit of the School for Housekeepers, which was held at the University, January 18-30, 1909. The daily program of the School was as follows:

8.00 to 10.00, Kitchen—Foods.

10.00 to 12.30 Kitchen—Foods.

1.30 to 2.30 The House (Lecture and Recitation), Miss Bevier, Miss Usher.

2.30 to 3.30, Clothing (Lecture and Recitation), Miss Gibbs.

3.30 to 4.30, Lecture in Morrow Hall.

7.30 Lecture in Morrow Hall.

Some of the topics which were considered were: Bread, yeasts, baking powders, food values, meat, uses of left overs, cooking of vegetables, problems in jelly making, and household appliances. In addition there were special lectures as follows: Two lectures on "The Home Care of the Sick," by Dr. Jennie M. Hughes, Champaign, Ill.; "Home Management," Mrs. H. A. McKeene, President Illinois Ass'n Domestic Science, Springfield, Ill.; "The Daughter's Place in the Home," Miss Harriet H. Rinaker, Champaign, Ill.; "Jelly Making," Miss Goldthwaite; "The Obligations of the Home," Mrs. I. S. Raymond, Sidney, Ill.; "Reports from the Field," Mrs. Jennie C. Barlow, Champaign, Ill.; and "Some Essentials of Home-Making," Mrs. Joseph Carter, Champaign, Ill.

Teachers College The Trustees of Teachers College have reorganized **Columbia Uni-** the departments of Domestic Administration, **versity** Domestic Art, and Domestic Science as a School of Household Arts to be inaugurated in the academic year 1909-10 with the occupancy of the new building for these departments which is now approaching completion. The School of Household Arts will represent a continuation of the professional courses for the preparation of teachers which have long been carried on at Teachers College, with extensions both in the fundamental science courses and in the applied subjects. The announcement of courses which is soon to come from the press includes some seventy subjects comprised under ten divisions of instruction.

Miss Jane Fales has gone abroad for Teachers College, Columbia University, to study textiles and dressmaking. She will direct the laboratory courses in these subjects at Teachers College on her return next fall.

University of The Department of Household Science at the Uni-
Toronto versity of Toronto, is to give a short general course at the request of the faculty of education, and it is expected that one hundred students under that faculty will attend. Consideration is also being given at Toronto as to the general course leading to the arts degree. The work of the first and second years in arts is prescribed, with the exception of one subject in each. One part of the work of the third and fourth year is largely elective. Household science is an

elective in these years and ranks on a par with all other sciences, so that students in the arts may specialize in household science in the latter part of their course. For some time Household Science has ranked as one of the fourteen honor subjects at the University of Toronto, and students have been able to take a degree in this department.

The cornerstone of the new building for the department of household science was laid a few weeks since.

Mrs. Ellen H. Richards during January visited several western institutions including the University of Chicago, Milwaukee-Downer College, Rockford College, and the University of Michigan. She was present at the dedication of the new Home Economics Building at the University of Nebraska and, delivered an address on "Household Labor in the 20th Century." She also addressed the University at Convocation on "The Art of Right Living which Results in the Increase of Man Power." While at Lincoln, she spoke to the State Home Economics Association on "The Woman Who Spends." Mrs. Richards reports that "Nebraska is wide awake and ready and anxious to do the best things, and that there is full sympathy with all efforts to better living conditions."

Miss Edith Greer, Director of Domestic Science in Pratt Institute, Brooklyn, is spending a few weeks in Italy. Later she will make visits to schools in Central Europe.

Miss Louise Waugh, Instructor in Home Economics at the Pennsylvania State College, gave instruction daily during "Farmers' Week," December 30th to January 6th, at the State College.

A novel and commendable use of the training in home economics is being made by two of the graduates from the course at Milwaukee-Downer College. They are running a *cafeteria* for the day students, thus acquiring experience in buying, providing for and pleasing their patrons, in addition to practice in the preparation of food.

The Department of Domestic Economy, at the University of Wyoming, has been re-named the Department of Home Economics, and it has been organized as part of the Department of Liberal Arts of the University.

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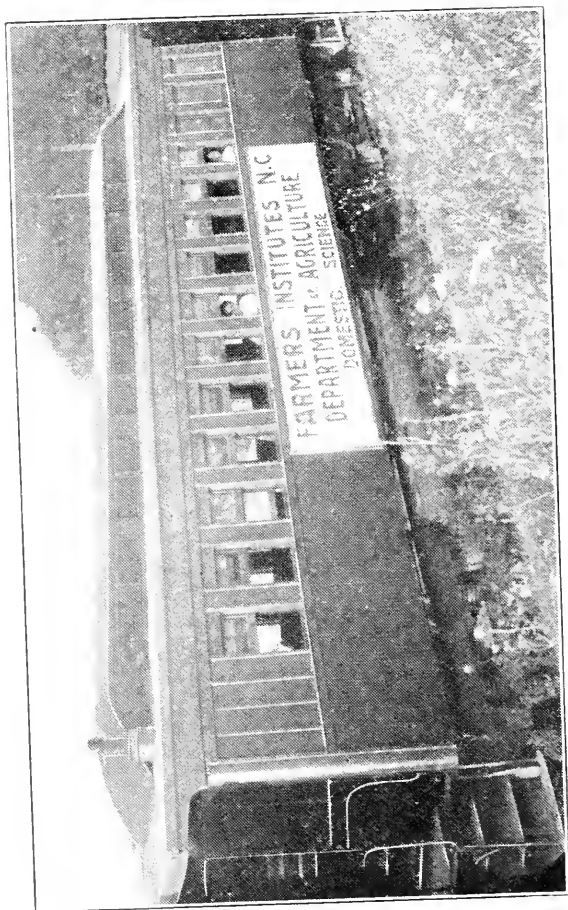
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THE Journal of Home Economics

VOL. I.

APRIL, 1909

No. 2

DOMESTIC SCIENCE TEACHERS IN THE CAMPAIGN AGAINST TUBERCULOSIS.¹

IRA S. WILE, M.S., M.D.

New York City.

What may the domestic science teacher do to further the campaign against tuberculosis? What may the public school teacher and the settlement teacher do in this connection? Can certain lessons be definitely planned for the discussion of this subject, and what facts would be safe to teach children?

This, in a vague way, represents the subject of our discussion. If there is a health problem, domestic science teachers should know its solution; the real difficulty is in teaching this solution to others. The problem is that we are dealing in algebraic manner with unknown quantities in our variety of children.

Health is as important as education. While there is considerable agitation about teaching children some vocation to enable them to earn money, there is little agitation about making them able to earn it. When the position of health in education is recognized fully, domestic science will be correlated with the work of the visiting nurse, the medical inspector, and the gymnastic director, into a department of school hygiene which at present seems a necessity. Domestic science involves the improvement of the home through the medium of the school. The settlement teacher reaches the home also but through the mother directly. It must not be forgotten that the mother is the manager of the home. The home is an index of the mother, and as teachers form child character with their ordinary A B C, so domestic science teachers determine, in part, the character of the home. What is done during the school years to protect health and to what regarding health? In one system of schools, for the

¹Read before Home Economics Association of Greater New York, November 21, 1908.

first three years there is some informal talk on physiology and hygiene, and in the sixth year social hygiene is taught; but in these years health has not really been regarded as an object of education, although the need of health instruction, and especially as regards tuberculosis, cannot be gainsaid.

According to Prof. Ganghofner, in a series of eighteen hundred autopsies on children dying of diseases other than tuberculosis, he found in the children between the ages of four and six years, 26.9 % infected with tuberculosis; between the ages of four and six years, 26.8% infected with tuberculosis, and these represent percentages of tuberculosis infection where children did not develop a real tuberculous condition. Cornet has determined the mortality of tuberculosis under fifteen years to be 8.8% for males, and 10.4% for females. In Paris, Grancher found 15% of tuberculosis among 1426 children whom he examined. Sachs has well stated: "The increase in the frequency of tuberculosis, with the advance of age from childhood to adult life, makes it evident that eradication of tuberculosis from human life can never be accomplished unless the child first of all is protected from infection." Schlossman more positively has stated "A successful campaign against tuberculosis can be waged only if we prevent infection during childhood, for it is during this period of life in a great majority of cases that infection takes place, although the disease itself may not become manifest until later in life." A large percentage of the cases of tuberculosis in children is due to direct exposure to infection. Tuberculous parents, tuberculous relatives, tuberculous attendants, must be blamed for a large percentage of the infection of children with tuberculosis. It is a dire calamity that the invalid of the household is frequently the one to whom are entrusted the children, especially when the healthy adults are obliged to leave the home for employment; and it is to such sources of infection, rather than to the milk supplies, that we must attend in order to lessen the morbidity from tuberculosis. We must not lose sight of the fact that morbidity, is more important in considering social diseases than mortality because fully five persons are sick to one who dies. If Dr. Knopf be correct in calling a tuberculous predisposition "physiologic poverty," the problem of the prevention of tuberculosis in the public school system must be begun directly in the home. A child should not be forced to go to school, nor should

the domestic science teacher do ought to urge children of tuberculous parentage to remain in school, until they have reached the age of eight or nine years; and if such pleasant things as the "waldschule" exist, a special appeal should be made to the parents to permit the child to attend such an open air school in order to strengthen it and overcome its predisposition to tuberculosis. In investigating the relations of the industries of Worcester to tuberculosis, Getchell found that of each ten thousand cases of tuberculosis, 225 cases occurred among housewives and 66 cases among children and students. He states "If it shows anything, it emphasizes the belief that the disease implants itself in the home; that it develops most rapidly in those who lead a sedentary life; that it occurs more often in the unskilled workman who earns small wages and consequently cannot house and feed himself adequately."

In regard to the question of food, we have heard much discussion regarding breakfastless school in the City of New York. We know that Hunter has claimed that here are 60,000 to 70,000 school children in New York City, "who often arrive at school hungry, unfitted to do well the work required." I agree that, if education is compulsory, the school system should also require that children be compelled to be in proper condition to do their school work. But it is not a question of breakfast. We are well acquainted with the capricious appetites of children, with their tendency to get up late and bolt their food, or go to school without any, and we know that this is no more a characteristic of the children of poverty than of those who dwell in comfortable circumstances. We know that poor feeding, the giving of coffee and tea, poor ventilation, poor hygiene, no matter what the conditions may be, are large factors in regulating the important question of feeding children, and I largely feel that the answer to the problem is that it is one of misdirected feeding through ignorance, rather than under feeding through lack of means. When one pauses to consider that a standard diet for tuberculosis, worked out by Bardswell and Chapman, sufficient for the treatment of the average tuberculosis individual can be secured at a minimum cost of eight pence a day, we can appreciate that our attention to the economic problem of dietetics with relation to tuberculosis, has been exceedingly lacking.

With domestic science really teaching management of the home, the object of its work is to teach, instead of the three R's, the three H's—Health, Happiness, Home. The subject of physiology and hygiene contains much really belonging to domestic science, and in so far as the hygiene of the home is the collective effort resulting from individual hygiene, hygiene as it should be taught in the lower classes is distinctively a part of the work of domestic science.

The course of hygiene at present existing in our New York public schools is interesting. In the class 1A, there are talks on cleanliness and correct habits and the effects of alcohol and narcotics; in 2A, on dietetics, care of the teeth, effects of alcohol and narcotics. Not until grade 4A, is the need of pure air, ventilation, rest, sleep, care of the eyes, and care of the hair taught, but the effects of alcohol and narcotics is deemed necessary as the very first instruction in hygiene. It is apparently more important to teach our children that their parents are likely to be drunkards with hardened livers, because they have taken their daily glass of beer than to teach our children the need of having the windows open at night or to keep their hair well combed and nails well trimmed. It is far more important, apparently, that the children should learn the baneful effects of cigars and cigarettes at a tender age, than that they should know the necessity of play, correct posture and proper clothing. Tooth-brush classes instituted in 1A would be of far greater physical good to the children than informal talks on alcohol and narcotics. Unfortunately, I may say in passing, I am informed that the teaching of hygiene in the first few years of our public schools is so splendidly neglected that its value is greatly lessened. There is no doubt that the time to teach domestic science is when the law gives the children to the schools for education. Physical education should be compulsory. The idea of social health should be inculcated from the very beginning of the curriculum. Domestic science should be begun among the youngest of children where the death rate is the highest. People frequently advocate leaving the teaching of hygiene and its relation to home environment, entirely to the parents. But what does the average mother know of domestic science—these willing mothers who have been educated in the same school when even less attention was paid to hygiene?—How much does

the foreign population, daily coming to our shores from rural districts in Europe, know of the hygiene relating to life in a large city?

I believe that the domestic science teachers should busy themselves to secure legislation that will at least make a beginning in the proper care of our children, at the very time that they enter the public schools. I believe that when each child is taken to school for the first time, the mother or father or guardian, should be given a card on the style of our present tuberculosis catechism, requesting co-operation in the efforts of a Department of School Hygiene to keep the child well during the period of school life, and suggesting in such a catechism the ground work in hygiene essential to the maintenance of a high standard of physical health. I believe that all cases of tuberculosis in households should be reported to the public school authorities, and those homes from which children go to the public schools should be investigated, and special attention given to the establishment of a correct mode of life on the part of the tuberculous individual, so as to prevent the infection of the children of the household. Do not mistake my intention—I do not wish to make tuberculosis the *bête noir* of child life. Make the maintenance of health the goal and that will involve sufficient of an attack upon tuberculosis. Do not aim to develop tuberculo-phobes or microbe-phobes or worriers. "The bacteria will catch you if you don't watch out," is a poor pedagogic method. Teach a child that there is sickness but do not instil a fear of it. Make health a paramount issue and base the rules of life on the necessity of keeping well. The child in the earliest grade can be taught the value of personal hygiene and social hygiene and the results to be obtained from each.

The problem of tuberculosis is divided into that of the prevention and the cure, and the domestic science teacher must give attention to both. Under the head of general prevention, she must give her attention to those things which will develop bodily vigor and lessen likelihood of infection. She must be able to counsel as regards breast-feeding, use of alcohol, the correction of physical deformities and proper diets at various ages. She must be able to authoritatively advise regarding cleaning and disinfection of homes previously occupied by tuberculous individuals. Sunshine, ventilation, creeping children, pacifiers and tasting of food by mothers, are all subjects within her province.

The milk supply, the water supply, sewage disposal, the contagiousness of coughs and colds and the segregation of tuberculous parents, are subjects of especial importance to her. It is not a question of teaching how to cook, but how to live. Nutrition depends first upon proper mastication, therefore dental supervision is within her province.

Thus far there has been established no ratio between the cost of food and the death rate from tuberculosis, but there is undoubtedly a ratio between the quality of the food and its quantity, and the death rate from tuberculosis. What the domestic science teacher aims to teach is the securing of the maximum nourishment at the lowest cost and with the greatest ease in preparation. You must necessarily be strongly anti-delicatessen. That domestic science course which first teaches about crullers, teas and candies, fails ignominiously at the very onset of its work, and I regret to say, that there are many such courses in the schools. What we should aim to do, is to teach our children how to live. Part of this, undoubtedly, comes from developing better cooks, still more however from developing economical cooks from whose savings will result better clothing and better housing. When our children leave the public schools to go to the stores and factories and homes, they should understand the necessity and the mode of securing all good foods, well prepared, at the cheapest price and with the utmost nourishment. Children should be taught that it is not a question of quantity of food but quality of food. The breakfastless children whom Hunter deplors, are no worse off than the cup-of-coffee children—than the bolted food children. The use of individual cups and eating utensils, the covering of foods when not in use, the danger of contamination by dust, the contagion that may be spread by flies and other insects, are questions of the greatest moment for the physical comfort of the home; and the ventilation of homes is a subject of no mean importance. The value of sunlight as a preserver of health in the home, could not be more fittingly expressed than by Dr. Derby of the Massachusetts Board of Health: "Let in the sunlight and never mind the carpets; better they should fade than the health of the family."

The domestic science teacher in the settlements presents a different problem, because her problem is largely to secure a few converts to the dicta of domestic science and then encourage the

converts to teach the many by example. For instance, there may be classes for children, for adults, for pregnant women and for mothers. The work is intensive, classes are small, there is a close personal relation, and there are no restrictions on the field of work. In school work, however, there are large classes, prescribed courses and a dire lack of personal attention. The classes for mothers, the classes for little mothers, the classes for children, all afford wonderful opportunities for raising the standard of living and improving the health and the homes of our children. Direct instruction, such as is given by model flats is of inestimable value. The Association of Practical Housekeeping Centers of New York City, declares that their particular objects are "for benevolent and educational purposes, to instruct by practical illustration and otherwise, people of the tenements in domestic science and in the art of home making."

I wish briefly to refer to a few institutions whose work along the lines of domestic science is of immense social importance. The St. Pancras Society in England, maintains a sewing class for pregnant women and gives instruction in the art of constructing cheap meals. They maintain a school for nursing mothers, and provide dinners for nursing mothers, at the same time teaching food values and baby culture. Health lectures and cooking lessons are given to the mothers with special reference to caring for the children. The English Bread and Food Reform League is an educational, purely non-commercial, non-political association, organized to direct attention to the great importance of the food question, and to promote through nutrition, the health of the people. "Without advocating any special system of diet, we may urge teaching the economic and nutritive value of such neglected staple foods as oatmeal, barley, wheatmeal, rice, maize, beets, beans and lentils, nuts, fresh and dried fruits, green and root vegetables, as their more general use would promote the health of all classes of society." The Ontario Women's Institutes were established in 1897 for the dissemination of knowledge relating to domestic economy, the economic and hygienic values of food, clothing and fuel, a more scientific training of children with a view to raising the general standard of the health and morals of the people; in short, the discussion of all subjects which tend to the betterment of home conditions. The Health Education League of Boston is endeavoring to spread

the knowledge of the laws of health among the people through the circulation of sound, popular health literature. The Irish Women's Health Association, under the Countess Aberdeen, seeks to provide nourishing food, teach cleanliness and ventilation, bathing, the buying and preparation of food, the maintenance of pure foods through a system of food instruction, and so forth. A most practical method of combating tuberculosis through domestic science, has been adopted by the Association for Improving the Condition of the Poor, of New York City, which has added to its staff a visiting teacher of foods and cooking. This dietitian is to teach mothers how to secure adequate nourishment for large families from small stipends. Families who were being provided with inadequate nourishment at \$1.00 to \$1.25 per day, are being taught how to live, and to live well, on 70c to 75c per day; and the standard of health of such families will be raised.

Instruction in hygiene, instruction in home improvement, protection of children from their unhygienic elders, is coming more and more to occupy a prominent position among the subjects of social discussion. No class of people can be more efficient in considering the large problem of tuberculosis than the domestic science teachers in this country. To mould public opinion, however, so as to overcome the various fetishes we daily worship, an efficient organization is necessary. The individual opinion of the domestic science teacher may be scorned, held in contempt, derided, but the united opinion of an intelligent organization pursuing a scientific policy for the social betterment of the community, will have an awakening effect upon a somewhat lethargic public conscience.

Columbia University has been giving a series of lectures twice a week during February, March and April on Sanitary Science and Public Health. The project looks to the ultimate organization of a School of Sanitary Science. Typical lectures in the present series were as follows: March 3, Public Health Problems of the Municipality, by Thomas Darlington, M.D., President and Commissioner New York City Health Department; March 10, Public Health Problems of the State, by Eugene H. Porter, A.M., M.D., Commissioner of Health of the State of New York; April 12, Diseases of Animals Transmissible to Man. The Relation of Insects to Disease, by Theobald Smith, M.D., LL.D., Fabyan Professor of Comparative Pathology, Harvard University; April 26, Visiting Nursing and its Influence on the Prevention of Disease, by Richard Clarke Cabot, M.D., Instructor in Clinical Medicine, Harvard University.

TYPHOID FEVER—INFECTION AND PREVENTION.

MRS. MARY HINMAN ABEL.

Baltimore, Maryland.

The weekly death record of any town or city will show that typhoid fever as a cause, is always present, and at times the number of its victims rival those of the grim leaders of the column, pneumonia and tuberculosis.

In the United States, 35,000 people die every year from typhoid fever, a frightful record for a preventable disease; for so wholly preventable has it proved to be, that it ought to become, as some physicians have said, as rare a disease as small pox. Time was when typhoid fever was thought to be carried in the air, to "emanate" in various obscure and untraceable ways, and there was talk of "sporadic" cases, but it is now well known to be carried by a living organism called the typhoid bacillus which is taken into the body through the mouth. These germs are voided in great numbers in the excreta of the patient, not only during the attack, but for a varying length of time after apparent recovery. They remain active for a long time, even as long as six months in a soil containing nitrates, and by finding their way into food and drink they set up the disease in other individuals. Only in this way or by infected hands or utensils coming in contact with the mouth, is the disease communicated. The typhoid germ is very widely distributed and the number of cases would be greater than it is, were it not that many individuals seem not to be susceptible to it. The old and the very young are almost exempt, the tendency to it being greatest among those who are between fifteen and thirty years of age. To quote Dr. Osler, "The fairest of our sons and daughters * * * are offered to our Minotaur; this to our shame, we do with full knowledge and with an easy complacency that only years of sinning can give."

Water as a Carrier of Typhoid.

In 322 American cities in 1905, the number of deaths from typhoid fever averaged 34 per 100,000 inhabitants. At the same time, the average taken from 10 European cities, was 11 per 100,000; the comparison being of value, simply because the

great European cities obtain their water from filtration plants or from pure mountain streams, lakes or rivers, while the water supply of our own cities is in most cases subject to the pollution of densely populated suburban districts. There have been sudden dramatic outbursts of the disease, affecting as high as 10 % of the population and due to an accidental pollution of a water supply generally considered good; such was the epidemic that occurred at Ithaca, New York, some years ago. Most of the water-borne typhoid, however, is due to the constant contamination of the water supply by leaking sewer pipes and cess-pools. Unless the water of a town is known to be above suspicion, there is no positive safety in drinking what has not been boiled.

Milk as a Source of Infection.

Water is a mere passive carrier of germs, but a medium in which the typhoid bacillus can grow and multiply is an active agent of great danger. Milk is such a medium and it is responsible undoubtedly for more cases of this disease than is any other food.

Let us suppose that an employee on a dairy farm has been on a journey and has drunk typhoid infected water. In due time he is taken ill; if very ill a doctor is called, who, if he makes a correct diagnosis, notifies the health board immediately and the milk of the dairy is retired from circulation, (to use a library phrase) until the farm can show a clean bill of health. But suppose on the other hand that the man has but a slight rise in temperature, that he is indisposed rather than really ill, and quite able to attend to his work. These light cases, sometimes called "walking typhoid" are probably most dangerous of all. From lack of cleanly habits and especially from neglect of the scrupulous washing of hands before milking or touching any milk utensils, this person may directly plant typhoid germs in milk pail, strainers and pan. In this good culture ground, they multiply enormously and within a few weeks, a number of cases of the disease have developed along the milk route served by this dairy. More frequently, perhaps, the milk is infected by one who has not the disease but who is nursing a typhoid patient. In a number of cases on record, the patient has been cared for in the very room in which the milk was strained and bottled for market.

Or, the infection may have been indirect. The dejecta of a patient having been thrown out on the ground, the contained germs reach the water supply and the cans and bottles washed in this infected water may thus start the disease. Were doctors and trained nurses running this dairy farm, they would be able by the use of the stringent antiseptic methods in which they have been trained, to avoid infecting the milk, even though patients were being nursed in the same building. But considering the fact that the average individual wholly lacks such exact training, health boards are wise in forbidding the delivery of milk to the general public from a farm on which a case of infectious disease exists.

Unless the source of milk is known and a competent veterinarian has declared the herd to be without disease, there is no safety in the use of raw milk

The Typhoid "Carrier."

Among the causes of typhoid fever only recently brought to light, must be reckoned "the typhoid carrier," the person who continues to harbor the germ long after apparent recovery and who is a menace to the health of any household, especially if in charge of the preparation of food. More and more of these cases are being discovered. Dr. Howard tells of four cases reported in an English town in a few months. In one of our own cities an institution containing nearly a hundred members, suffered for a year from outbreaks of the disease and the cause remained a mystery until a "carrier" was found in the kitchen.

May not this new and startling proof of the necessity of guarding the food supply, help to public recognition of the fact that the preparation of food is, in a new sense, to be classed among the "dangerous occupations," so that a cook may yet be required to carry a certificate stating that she suffers from no communicable disease?

The Typhoid Fly.

This is the new name proposed for the *musca domestica*, or common house fly, by Dr. L. O. Howard, Chief of the Bureau of Entomology in Washington. He urges the adoption of this name "in order to call direct attention to the danger of allowing it to continue to breed unchecked." Every cleanly housekeeper

hates a fly, and her instinctive dislike for unbidden guests of foul origin and habits, seems to be more than justified by the results of scientific enquiry. The fly has been made to walk across the sterile gelatine plate and has left tracks that reveal to the microscope what it fetches and carries. It was ten years ago at the time of the Cuban War that we began our real acquaintance with the fly and all its works. In the summer of 1898, the United States troops, en route to Cuba, were stationed at various camps in the South Atlantic States, and every camp in less than eight weeks was attacked with typhoid fever. The number of cases rapidly increased until about 20% of the soldiers had developed the disease, and of the total deaths in the army during the war, typhoid fever furnished 86%. It was found that the hygiene of the camps had been shamefully neglected, that offensive uncovered sinks, or pits, were in close proximity to the tents and, to quote from the official report, "Flies swarmed over infected fecal matter in the pits and then visited and fed upon the food prepared for the soldiers in the mess tents. In some instances where lime had been recently sprinkled over the contents of the pits, flies with their feet whitened with lime were seen walking over the food." To quote further: "Flies were undoubtedly the most active agents in the spread of typhoid fever."

The epidemic of typhoid fever in Chicago in 1902, again fixed guilt upon the fly. Flies caught in undrained closets, on fences and in the room of a patient, were found by the bacteriologist to carry the bacillus on their feet.

Flies undoubtedly carry infection to milk. An observer describes flies as settling in a black mass on the cream separators. Now, if in this case, they had been feeding on the dejecta of a typhoid patient, they could have infected enough milk to start one of these outbreaks of the disease that have become famous in medical literature. Not only do flies carry infection on their feet, but there have frequently been found in the speck living organisms capable of setting up disease.

The evidence against the fly is rapidly growing. Dr. Howard, whose researches have done much to throw light on the relation of this insect to the spread of disease, holds that the fly, at least under city conditions, must assume third rank as a typhoid "carrier"; that is, next to water and milk.

Dr. Daniel D. Jackson of the New York City Water Board, in his report of December, 1907, to the Committee of the Merchants' Association on Pollution, showed the relation of deaths from intestinal diseases, to the activity and prevalence of the common house fly; the plotted curve rising above normal at the same time at which flies become prevalent, culminated at the same high point and fell off with slight lag at the time of the gradual falling off of the prevalence of the insect. Last year similar studies were made in the city of Washington which seem to show that flies are responsible for the great increase of typhoid in the late summer. The expensive filtration plant installed in that city some years ago was expected to decrease the number of typhoid cases by 75%, but it has failed to do so during the summer months.

The campaign against the fly is already well organized. Its breeding places must be the first place of attack. It breeds preferably in horse manure, the vast majority of flies that are found in city and country, coming from this source. It also breeds in human excrement and in fermenting vegetable and animal material.

To quote Dr. Howard: "With the careful collection of garbage in cans and their frequent removal, with the proper regulation of abattoirs, * * * and of stables in which horses are kept, the typhoid fly will become a rare insect." We are told, however, that it is too much to hope that in the near future the country districts will be relieved from the curse of flies, but much can be accomplished on any individual farm by placing the manure daily in a specially constructed water tight and screened pit or other receptacle, and keeping it well screened until it is placed on the land. This has been found to be cheaper and more effective as a method than the treatment with lime, petroleum or any other agent. Meanwhile, careful screening of doors and windows, supplemented with use of fly paper, will keep flies from food. A fly that falls into the milk will surely leave behind some of the six million or more bacteria of different varieties with which the tiny body is loaded.

Raw Vegetables and Fruit.

Typhoid fever is also carried by vegetables that are raised in regions where night soil is used for fertilizing. If these vege-

tables are eaten raw, the greatest care must be used in their repeated cleansing in water that has been well boiled. Raw fruit has been known to carry infection, doubtless through filthy handling. All fruit should be well washed, dates and figs scalded and the peelings of fruit should not be eaten.

Another source is found in the eating of raw oysters that have been "fattened" or swollen in fresh or brackish water, in most cases the sewage-infected outlet of streams. The traffic in fattened oysters should be forbidden by law, thus removing all danger in eating this delicious bivalve, for oysters in their natural beds are wholesome and free from contamination in the vast majority of cases.

Considering what is now known of the methods by which typhoid fever is conveyed, what is the duty of housekeepers, teachers and individuals? Says one health officer: "Boil the water, steam the milk, keep out the flies." But we have also our duty to those who, from poverty or ignorance, will not take these precautions.

If the water supply is to be above suspicion and milk inspection thorough, sufficient funds must be furnished to the city engineer and to the health department, and then it must be honestly spent. Into this side of the question we cannot enter. When the average citizen knows what he wants in this line, he will get it.

On this account, and for immediate personal reasons, the general public must have more practical instruction concerning infectious diseases and their prevention. This is to be brought about by the press, by lectures, by placards and health tracts and by instruction to small groups, as is already given by the members of such organizations as the Instructive Visiting Nurses Association. The two points of greatest importance are, the proper disposal of human excreta in supposed health as well as in sickness, and the acquiring of better personal habits as to cleanliness.

Wherefore do ye spend money for that which is not bread, and your labor for that which satisfieth not?—Isaiah, iv. 2.

Preserve and treat food as you would your body, remembering that in time food will be your body.—B. W. RICHARDSON.

"The palate is the janitor, and unless he is conciliated, the most nutritious food will find no welcome."



CALEB TICKNOR, M. D., 1805-1840
Author of *The Philosophy of Living*, 1836.
From an ivory miniature owned by Miss Grace Warner,
Salisbury, Conn.

CALEB TICKNOR, AN EARLY AMERICAN WRITER ON NUTRITION, 1805-1840.

C. F. LANGWORTHY.

U. S. Department of Agriculture.

Caleb Ticknor was born in 1805, in Salisbury, Connecticut, and died in 1840 in New York City. He was one of the early American writers who interested himself in the subject of human nutrition. Doctor Ticknor was graduated from the Medical Department of the University of Pennsylvania in 1829 and submitted as his thesis for the doctor's degree an article on "The Influence of Diet, Dress and Amusement upon Health." This material was later expanded into a book dealing with the same general subject. Doctor Ticknor's discussions are very interesting and are characterized by keen insight and good judgment. Many of his general statements are applicable to present day conditions.

The title page of Ticknor's thesis was as follows: "An Inaugural Essay on the Influence of Diet, Dress and Amusements Upon Health; For the Degree of Doctor of Medicine in the University of Pennsylvania by Caleb Ticknor, Salisbury, Connecticut, January, 1829." The thesis is endorsed: "Passed, March 5, 1829," and "ad cund of Westown School of N. York." The following quotations are taken from the thesis, the first from the preface:

"The medical faculty are entrusted with the lives and health of their fellow creatures, and are responsible for the faithful discharge of duties devolving upon them as guardians of the public health.

"The object of the profession is to cure and prevent disease; and since this is the case, the attainment of so laudable an end ought in no wise to be defeated, by neglecting to censure the follies of gay and thoughtless youth, as well as to correct the errors of those of a more mature age. The influence of physicians in society is more or less extensive, and should be exerted to the utmost in the promotion of health and happiness, by reforming error, reproving folly, and discountenancing vice and immorality.

"We shall proceed, without further prefatory remarks, to consider, in a cursory manner, the influence of diet, dress and amusements, upon the health of the present generation.

After this introduction the section on diet follows and practically all of this is quoted.

"No one cause of disease produces effects more injurious or extensive than unwholesome or improper diet. An article of food, if used without discretion may be productive of disease; whilst, taken properly, it may add strength and vigor to the constitution; or it may produce unpleasant or injurious effects in one person, whilst in another it may prove altogether innocuous, or rather wholesome and nourishing. These effects of diet, so discrepant in different individuals, or in the same individual at different times, depend, in part, on idiosyncrasy, in part on the state of the system, but most of all, on the distorted and unnatural character of whatever is served up in the shape of food.

"The intention of the Creator was, evidently, that man should derive his means of subsistence from the animal as well as vegetable kingdom; this we infer from the structure of the human frame, besides having direct proof of it in revelation. The more simple are the articles of nourishment, the more do they contribute to health, comfort, and longevity. In support of this proposition we have but to look back at the antediluvians, and contemplate the instances of extreme old age there to be met with. Society was then in a simple state; and refinement, with the Hydra-headed monster Luxury, had not yet made its appearance. When the wickedness of man became great upon the earth, human life was shortened¹. 'Pres au deluge se rangent le decroissement de la vie humaine; le changement dans le vivre, et une nouvelle nourriture substituee aux fruits de la terre.' The mode of living among the aborigines of our country goes, also, to show the salutary tendency of simplicity in diet—their meat being the flesh of animals killed in the chase, or fish taken from lakes and rivers, whilst their sole drink is the only beverage provided for man by the hand of Nature. Where do we find a people that can equal these children of the wilderness in enduring hunger and thirst, cold and heat, or excessive fatigue in any undertaking? But mark the change in their physical as well as moral nature, on the introduction of the habits of the white man, unless Christianity, at the same time, diffuse its benign influence among them.

"To draw proofs from those a little more nearly related to ourselves, we find none better suited to our purpose than the Pil-

¹ Bossuet—*L'histoire universelle*.

grims, the ancient settlers of New England. Correct, and even rigid, in their habits of morality, and compelled to subsist on the most homely fare, and accustomed to vigorous exercise, they enjoyed that health and energy, both of body and mind, which their degenerate offspring, at this day, little dream of. Were we to seek for evidence still stronger, we have but to bring the subject directly home, and contrast the two classes found among ourselves; to wit, the rich and the poor. The rich use that diet which may be chosen by a capricious appetite, or which fancy may dictate, while the poor use that which may be demanded by nature or which circumstances allow. The countenance of a person will, at a mere glance, indicate to which class he belongs, as well as point out the degree of health and constitutional vigor that he enjoys. The indigent but temperate laborer has the glow of health upon his cheek, while the wealthy and luxurious has, generally speaking, an artificial freshness of countenance, or a complexion faded and sallow. It does not follow as a necessary consequence that, because a man is rich he must be a glutton or wine-bibber—but 'man is the creature of circumstances,' and those who have it in their power to often yield themselves up to the indulgence of every wayward appetite and passion.

"The diet of the two sexes is different, and so are the diseases to which each sex is obnoxious. Many among the male sex are accustomed to taking in no very small quantity, solid food of different dishes highly spiced, and agreeably flavored, that the pleasures of the taste may be prolonged after the demands of hunger are satisfied. The overloaded stomach now requires aid in digesting its contents; and brandy or wine, or both, are taken, as being the best solvents of this heterogeneous compound—or rather, as being *stimulants* most appropriate to the case. Such delicate and complicated organs as are concerned in the process of digestion cannot long endure the preter-natural task imposed on them, and the constant goading and stimulating to which they are subject. As a consequence of this mode of living, engorgement of some vital organ, or a low degree of inflammation of some one viscus, is, sooner or later, sure to ensue—hence, a host of diseases, well known in this civilized and enlightened age under the names of gout, dyspepsia, dropsy, etc.

"The diet of females unlike that of the other sex, consists in a great measure of pastry, sweetmeats, and other articles of this class, than which nothing taken into the stomach is more indigestible or less nutritive; and this is more especially true if the constitution be feeble and delicate. The sedentary life of most females predisposed them to numerous complaints peculiar to the sex; and the diet of which they make use tends to excite some of these complaints into action, while it increases the susceptibility of the system to others. Their drinks too are relaxing and debilitating, and as unwholesome as their food; hot tea and coffee being their principal beverages. Thus, instead of a rosy cheek and laughing lip, among the *sisterhood*, we find a countenance sorrowful and wearing the paleness of the lily.

"Every country and every clime have been ransacked for something that may please the dainty palates of our modern epicureans. The daily and most common meals of the great majority of people of this day, are composed of the products of different quarters of the globe. Nearly every article of our diet is artificial, both of food and drink. The ingenuity of man has been tortured to discover some new product, or some new combination, that might gratify a fastidious appetite. Our most delicious fruits, and even our most valuable and nutritious grains, have been made to yield an intoxicating liquor—a poison that has destroyed countless thousands, and a curse nearly as grievous and almost as much to be dreaded by our happy country, as were, in ancient times, the plagues to be feared by Egypt."

Sections on dress and amusements follow the section on diet but as they are of less interest to students of nutrition they have not been copied. The original manuscript of Ticknor's thesis is bound up in the University of Pennsylvania collections in Thesis, Vol. 49. So far as can be learned, the thesis, or, as it might more properly be called, essay, for it reports no original work, was never published. It was, however, expanded into Ticknor's book on "The Philosophy of Living," published by Harper and Brothers in 1836, but which, as the author states, was mostly written in the early part of 1834. Some quotations from the volume follow, the first being from the general introduction.

"On investigation it is found that the great amount of discontent, unhappiness, disease, and misery, is owing to an im-

proper or unwise use of the good things of this world. A bountiful Providence has bestowed upon his creatures multitudes of blessings and luxuries to gratify both taste and sense, and as long as they are enjoyed in the spirit of true philosophy, they will contribute to our health, comfort, and happiness. But here lies the error—men do not rightly consider to what extent indulgence may be carried, consistently with their well being or that of those upon whom their example may have an influence. . . . Our fellow-men are not altogether in blame, neither are they altogether excusable, for not acting more in obedience to reason and the requirements of nature. They are not well enough acquainted with the laws of their organization and the wants of the system to act, in all cases, in conformity, thereto; yet, with the exercise of what knowledge they have, and the right use of reason, many of the miseries under which they now groan might be averted. To aid them in acquiring the necessary information, as well as to assist in its application, is the object of the following pages.

"If it is true that it is good for 'a man to eat and drink, and enjoy the good of his labour,' two inferences may be drawn from the proposition which are equally true: first, that enjoyment is incompatible with excess of indulgence; and, second, that abstinence from the good creatures given us is throwing away, and voluntarily placing beyond our reach, the means of a rational and innocent enjoyment.

"Indulgence in eating is known by all medical men to be a fruitful source of disease; and not only members of the medical profession, but others have speculated to great extent on the question as to what is the most proper food for man. By some, animal food has been condemned, and a vegetable diet recommended as the only kind fit for rational man; and even at this day there are those who advocate a return to the simple and wholesome fare of the patriarchs. Were we placed in circumstances parallel to those under which the patriarchs lived, there would be more reason in urging us to adopt their mode of life. . . . Much credit is due to those benevolent individuals and associations whose object is the reformation and improvement of our species; but it may be feared lest, by aiming at too much, at almost perfection, they may ultimately fail of even moderate success. Now, if we cannot accomplish all the good that is desirable, and if we are likely to fail of any by attempting too much, it is wisdom to let our efforts be more limited. . . .

"The subject of diet has of late been much hackneyed; books have been written on digestion and indigestion, and the public have been drilled and lectured, till no doubt they are sufficiently wearied. Every article of food or drink has in its turn been alternately praised and condemned, so that if, on the one hand, we were to eat as we are advised, we should be surfeited, and on the other, were we to abstain from those articles condemned and prohibited by some one, we should die of sheer hunger. Let us therefore consider the influence which diet has upon the health and happiness of man; and if we divest ourselves of prejudice in favour of either vegetable or animal food, or the bran bread and cold water system, we shall be the more likely to arrive at a legitimate conclusion. . .

Under the heading "Aliment or Food" Ticknor gives the definition of food which is essentially similar to the definition in most of the text-books now in use except that no reference is made to the energy value of food. This is of course what would be expected as the theories of body energetics had not been formulated in 1834. Ticknor also fails to give the real value to ash constituents.

"By aliment, or food, is meant those substances which when taken into the stomach nourish the body, sustain it in its growth and development, and repair its losses. Anything, therefore, incapable of doing this is not an aliment. Organic substances alone constitute aliments, and it is, consequently, derived exclusively from vegetables and animals. Substances most commonly employed as food do not consist entirely of aliment, but combined with the nutritious principles are others of a harmless or deleterious character, over which the digestive organs have little or no influence. Aliment is not the same for all animals. Some can subsist alone on vegetables, and are therefore called herbivorous; others again can live only on animal food, and are called carnivorous; while some again, among which is man, can be supported, on either, and are styled omnivorous.

"The preparation of food influences, its qualities and the actions it excites in the economy. The art of cookery, though unattended to by physicians, is almost as much a branch of medicine as pharmacy, and nearly as important in the management of diseases. The object of cookery should be to render food digestible, to diminish the labour of the stomach, to present the

nutritive principles as much divested as possible of extraneous matter, to destroy its injurious properties, and to adapt it, in the preparation of dishes, to the powers of the digestive organs, the individual temperament, the predisposition to disease, or disease actually existing. The prolongation of life and enjoyment of health are more immediately dependent on good cookery than on medicine. Health cannot be long maintained where there is a bad kitchen. The perversion of cookery converts the art to a flattery of the palate, instead of an assistant of the stomach, and by leading to an excessive repletion generates gout, rheumatism, and disposes to apoplexy and other affections. . .

"The food that is proper to nourish a child, cannot sustain a man at hard labour. Every farmer knows that his horses will live, thrive, and even grow fat on grass alone; but he knows very well, too, that with much work or driving, they would soon wear out and die, were it not for the grain that he is obliged to feed them. Animal life is much the same, whether it be in man or in a horse; and the same principles that are applicable to the one, are equally applicable to the other. . ."

In the section "Vegetable Versus Animal Diet" Ticknor discusses among other things the question of coarse bread in comparison with ordinary flour, a topic which was of special interest at the time owing to the theories advocated by Graham.

"The advocates of both vegetable and animal diet believe, or affect to believe, their arguments conclusive, because they are drawn from their own individual experience; rice and hominy, or brown bread, suit one man, and therefore, rice and hominy, or brown bread, must be the only proper food for everybody. Or another finds that beef steak and ship biscuit agree the best with him, and therefore everybody should eat nothing but beef steak and ship biscuit. This kind of reasoning is equally false and puerile, and should make no impression on a philosophic mind; for by such logic we can prove that every article of food is both good and bad.

"When two cases are in all points exactly parallel, then what may be proper for one will be also proper for the other; but such cases are seldom to be met with: individuals differ in so many respects that the old proverb is strictly true, 'What is food for one is poison to another.' Unfortunately for the advocates of an exclusive diet, they have all, or nearly all, been confirmed

dyspeptics or hypochondriacs; and it is not often that what is suitable for a sick man will be proper for one in health. The writer does not, therefore, address himself particularly to invalids; he comes as a friend to those who are enjoying health, and wish still to enjoy it, and with it some at least, of the blessings which a generous Benefactor has bestowed upon them.

"It is said that in a 'multitude of counsellors there is safety;' but it often happens that in the contrariety of their counsel an ordinary mind is so bewildered and confused that it is almost impossible to come to any conclusion. . .

"Retrenchment and self-mortification seem to be the order of the day in relation to food and drink; there being no virtue, on the principle of radicalism, which does not consist in going counter to the appetites and instincts of nature. 'Let us be temperate in our meats and drinks,' says one, 'and use the world as not abusing it.' 'No,' says another; 'but let us rather eat no meat while the world stands, and as to drink, let that be cold water.'" Such sentiments have been put forth on the subject of diet, and such ultra measures urged, that the very injury is caused which is attempted to be averted—to wit, ill health and consequent unhappiness. . .

"Cornaro is the standard nowadays—the mirror by which every man's nature is to be reflected—the great exemplar which every man is to imitate. Lewis Cornaro was a Venetian nobleman, who, by dissipation and debauchery at an early age, ruined his health and broke down his constitution; but by the advice of his physicians, he reduced his diet to twelve ounces of solid food, and about a pint of wine per day. This change had a most happy effect upon the debauchee, as it has at the present day, and will ever have on all who undermine their health and the strength of their system by the same course of vice and dissipation. Cornaro lived to be almost a hundred years old, and the conclusion is, by those who use the scales and weights, that everybody should live as Cornaro lived after he reformed—and so, indeed, they should, if they had previously lived as he did, with the same unhappy effect upon their health. This mode of reasoning is but taking the exception for the rule itself; and by it we may prove anything, and make of a single isolated fact a general principle, universal in its application. Red Jacket, the famous chief of the Seneca Indians, lived chiefly, as the other natives of the

forest do, on game, and exposed to all the vicissitudes and inclemencies of our variable climate. He attained almost as great an age as Cornaro did, and yet, during the last fifty years of his life, he was almost daily intoxicated. Does this prove that we must imitate Red Jacket, in order to live to a good old age? By such reasoning, I again say, we can prove anything, however absurd. . .

"There is a lack of philosophy and reason in attempting to prove, by a few rare examples, that either vegetable or animal food is to be used to the entire exclusion of the other. . .

"For the edification of those who believe bran bread to be a modern invention, I can barely state, that for the space of three hundred years, the ancient Romans ate bread made of none other than unbolted flour. We find this same bread recommended for invalids by Tyron, a writer in the reign of William and Mary; and since his day, it has been universally recommended by all medical writers and practitioners, for a certain class of patients, even down to the time of our own Mr. Graham. . .

"The hull, or bran, of wheat, contains little or no nutriment, and all the good it ever does, is by its mechanical irritation, in costive habits, to keep up a regular action of the alimentary canal—while, in cases of an opposite nature, it is positively injurious; and he who would recommend it to patients, suffering from an already excited state of the digestive organs, would show himself fit to become the inmate of a madhouse. If any man, in the possession of his health and senses, prefers bread made of unbolted flour to any other, he runs no risk of being injured by indulging in such luxury—to the invalid I have only to say, . . . consult your physician."

Columbia University, in co-operation with Cooper Union, has been conducting in the Great Hall of Cooper Union, New York a series of lectures, the "Hewitt Lectures, The Chemistry of Digestion," by William J. Gies, M.S., Ph.D., Professor of Biological Chemistry in Columbia University. The subjects were: Food: Biological and chemical qualities; Digestion from general standpoints; Digestion in the mouth; Digestion in the stomach; Digestion in the intestines; The utilization, by the body, of the products of digestion; Bacteria and their influence on digestion, in health and disease; and Digestion and nutrition as modified by special influences, and in disease. The lectures were appropriately illustrated with stereopticon views and zoetrope figures and there were numerous chemical and digestive demonstrations.

BRILLAT-SAVARIN'S "PHYSIOLOGY OF TASTE."

CLYDE FURST.

New York City 1

"The Physiology of Taste,"² by Anthelme Brillat-Savarin, Paris, 1825, is one of the classics of home economics.

Brillat-Savarin lived from the first half of the eighteenth century through the first quarter of the nineteenth, first as mayor of his native town in France; then, during the revolution an exile in Switzerland and in America; and, finally, during the last third of his life, a judge in Paris of the highest national court. The fame of his professional wisdom and justice was great, but that of his personal benevolence and geniality far greater. The choicest flavor and charm of many years of social life he preserved in the book he apparently intended to leave, at his death, as a legacy of good cheer to his friends. The record of his love of good living was to serve him, a bachelor, as a posterity.

His fears that so genial a production might seem inconsistent with his judicial dignity were overcome by arguments which are given in a prefatory dialogue, and the volume was published anonymously in 1825, a year before his death. Even in so short a time the book was crowned with extraordinary popularity. In addition to the Prefatory Dialogue and a series of Fundamental Truths, the little volume includes a Preface, thirty "Meditations" or chapters, and, in conclusion, a dozen narrative and descriptive "Varieties" bearing upon the subject. The whole amounts to less than three hundred small pages.

The earlier chapters, on the senses, the sense of taste, appetite, and thirst, are largely physiological or psychological, but even here the author carries out with charm his intention of touching but lightly subjects likely to be dull; he always practices the preaching of the mad poet Blake, "To particularize is the great distinction of merit," and everywhere he introduces "original anecdotes, witticisms, and similar side-dishes." Although Savarin separates the functions of taste into direct, complete, and reflective, he finds himself unable to classify its results

¹Published by arrangement with the *New York Evening Post*.

²The title page of the third edition reads: *Physiologie du Goût, ou, Méditations de Gastronomie Transcendentes, par un Professeur, membre de plusieurs sociétés savantes. A. Sautelet et Cie, éditeurs, Paris, 1829.*



BRILLAT-SAVARIN
Author of *Physiologie du Gout*.

further than to suggest some such gradation as: positive, beef; comparative, veal; superlative, pheasant. For its greatest satisfaction one should eat slowly and in minute portions—Fletcherism in a sentence. Anything else would be unworthy of our perfected organism, "the structure of the tongue of all animals being analagous to the reach of their intelligence." Under "Thirst" there is a similar, but even more daringly imaginative observation: "The desire for fermented liquors and curiosity about a future state are the two distinctive attributes of man as the masterpiece of nature."

Perhaps the most valuable, certainly the most pleasing, of the chapters are those on "Gastronomy," "The Love of Good Living," "People Fond of Good Living," "Gastronomic Tests," and on "The Pleasures of the Table."

Gastronomy is defined as "the scientific knowledge of all that relates to man as an eater;" being founded upon natural history, physics, chemistry, economics, and cookery, as well as on the sciences already mentioned; and affecting physically, mentally, and morally, every individual, of every class of society, every moment of his life. Some knowledge of it is therefore indispensable to all, and the more as one ascends the social scale, it being well known that the most momentous decisions of personal and of national life are made at table.

"The Love of Good Living" is shown to be not merely a physical, but an intellectual and a moral quality as well, "almost deserving to rank as a virtue;" opposing excess, developing discrimination, promoting physical health, and aiding moral resignation to the laws of nature. In addition, it is an easily and constantly available source of natural and innocent pleasure in a world of pain.

People fond of good living, especially physicians, men of letters, churchmen, and people of sense and culture in general—others being incapable of the necessary appreciation and judgment—always live longer than ordinary men. Napoleon's worst defeats were due to his injudicious diet. Such persons may usually be known by their mere appearance, but for cases of doubt Brillat-Savarin suggests a series of "Gastronomic Tests," or dishes of such indisputable excellence that those who do not instantly respond may immediately be declared unworthy. Thus: For a small income, filet of veal, larded with bacon, or

sauerkraut bristling with sausage; for a moderate income, filet of beef with gravy, or boiled turbot; for a generous income, truffled turkey, or stuffed pike with cream of prawns. It is important in these tests that generous portions be provided, for quantity as well as quality has its effects.

The conclusion of the meditation "On the Pleasures of the Table" must be quoted entire, so worthy is it of a place in "The Golden Book of Hospitality:" "Let the number of guests be small, that the conversation may be constantly general; of various occupations, but analogous tastes; the men of wit without pretension, the women pleasant, but not coquettish. Let the dishes be few, but choice, and the wines of the first quality; the order from the more substantial to the lighter, the simpler to the finer flavors. Let the meal proceed without hurry or bustle; the coffee be hot, the liqueurs chosen with care. Let the room to which the guests retire be large enough for cards, for those who cannot do without them, while leaving ample scope for conversation; the guests animated with the hope of still further pleasure. Then let the tea be not too strong, the toast artistically buttered, the punch skillfully made. Finally, let nobody leave before eleven, and everybody be in bed by twelve."

After reaching such an elevation, Brillat-Savarin wisely follows the dramatic principle of relief, by introducing anecdotes of the halts of a hunting party, and chapters on digestion, rest, sleep, and dreams. His observations and illustrations are always interesting and picturesque, frequently very suggestive, and sometimes strikingly modern—as when he says, "Digestion, of all the bodily functions, has most influence on the morale of the individual;" when he recommends for sleeping, an airy room, no bed curtains, and light but warm coverings; or when he discusses foods that produce sleep, and those that induce pleasant dreams.

The theme of the meditation "On Corpulence"—"The great majority of us eat and drink too much"—is of such general and permanent applicability that it is rediscovered every decade and announced with trumpets. The chapter "On the Prevention or Cure of Corpulence" outlines the diet by means of which for thirty years the author kept that tendency in himself "to the limit of the imposing"—a statement that his portrait well bears out. After a counter meditation on leanness, some felicitations

over the decline of fasting, and an excursus on "Exhaustion and Death"—"Death itself being not unaccompanied by pleasure when it is natural"—the author is again ready for a higher flight.

This occurs in the longest chapters of the book, in the form of "A Philosophical History of Cookery, Ancient, Mediæval and Modern, with an appendix, "On Parisian Dining-Houses." Here, indeed, is richness; the advantages and disadvantages of eating raw meat, the primitive feasting in the "Iliad," the advent of boiling in the Old Testament, how Cadmus brought the alphabet and good cooking to Greece, the elaborate and sometimes strange taste of the Romans—as for dormice and assafoetida—and a survey of the ancient literature of the subject, from the fragmentary poem on gastronomy by Archestratus, to the convivial poetry of Horace and Tibullus. The whole story is told, although briefly, excepting only the peculiar taste of the Greeks for mingling sea-water and turpentine with their wines.

The mediæval and modern development of the art is sketched, although of necessity more rapidly, from the rescue of cookery from barbarism by Charlemagne; through the introduction of spices from the East, garlic from Palestine, parsley from Italy, coffee from Turkey, and the potato from America; to the ages of pastry and of sugar, and the final culmination of the art in political gastronomy. Every line of this section contains such good things as "coffee should be crushed, not ground," and "It was Talleyrand who first brought from Italy the custom of taking Parmesan cheese with soup." But to select would be to quote the whole.

Restaurants seem to have been invented in Paris in 1770. There is a fascinating picture of the best of the author's time, with three hundred dishes and a hundred wines; a height of eloquence over the cosmopolitan sources of a good dinner; and yet higher soaring over the Parisian missionaries of the doctrine throughout the civilized world.

Nor does inspiration wane in the chapter on "Gastronomic Principles Put into Practice—" "the treasures of nature were not created to be trodden under foot . . . a good dinner is but a little dearer than a bad one . . . a man may show himself a distinguished connoisseur without going beyond the limits of his actual needs."

The last chapter, "Gastronomic Mythology," is pure creation—of Gasterea, the tenth muse, her nature, habit, aspect, and worship; and then—for, like Donne, "when he is done, he is not done, for there is more"—comes a "Transition": "in writing I had a double object . . . to lay down the fundamental theory of gastronomy, so that she would take her place among the sciences in that rank to which she has an incontestible right. The second, to define with precision what must be understood by the love of good living, so that for all time that social quality may be kept apart from gluttony and intemperance, with which many have absurdly confounded it."

Finally follow a generous dozen of short "Varieties"—anecdotes like "The Cure's Omelette"; personal experiences of "The Gastronome Abroad," some in America; original recipes and original verse; and an "Historical Elegy," in pity for the gastronomic ignorance of the past, and in prophetic vision of the full gastronomic glories of the year nineteen hundred.

Strangely enough it was fifty years before Savarin's work was well enough known outside of France to be translated; and even today, in spite of its delightful qualities, not one in a hundred, even among reading men know it. And yet although one would hesitate, perhaps, to call it "adorable," as Balzac did, it is certainly one of those rarely spontaneous and charming outpourings of personality that belong apart, with White's "Selbourne" and Walton's "Angler."

The New York State Normal College, at Albany, N. Y., is planning a Domestic Science Laboratory in connection with the High School Department of the Institution.

The Mount Morris Baptist Church, New York City, has arranged a series of Sunday morning lectures for an adult Bible Class numbering two or three hundred members, on the general topic "Applied Christianity." This is a move in the right direction. Among the topics set are several which fall within the field of home economics: The Tenement House Problem (illustrated with lantern slides), Miss Emily W. Dinwiddie; The Problem of Play and Amusement in New York City, James P. Lichtenberger, Ph.D.; The Moral Environment of the Young, Rabbi Samuel Schulman, D.D., and The Basis of the New Social Order, George William Knox, LL.D.



COOKERY AND LAUNDRY LABORATORIES, ELEMENTS OF SUBSISTENCE, COOKERY AND DOMESTIC ECONOMY.

THE EDINBURGH SCHOOL OF COOKERY AND DOMESTIC ECONOMY.

HESTER RIDLON.

Simmons College, Boston.

The Edinburgh School of Cookery and Domestic Economy, as reflected in its annual report and catalog, has much of suggestion for American workers in home economics. This institution is the outgrowth of a school established in 1875. It is conducted under the patronage of her Royal Highness the Princess Louise, Duchess of Argyll and the Right Honorable the Earl of Roseberry, K.G., K.T., etc., is its President. There are also fourteen vice-presidents, thirteen directors and an honorary secretary and honorary treasurer. The School which is located at 3 Atholl Crescent, Edinburgh, is under the guidance, as superintendent and secretary, of Miss E. de la Cour. She has with her an assistant secretary and a lady housekeeper. Besides these there are three senior teachers and fifteen other teachers.

The Edinburgh School seems to be doing in its various branches, exactly what many of our American schools are aiming ultimately to do or are striving to do at the present time, that is, reaching all classes and giving all possible training in household technique, both of the arts and of the sciences. Courses are offered for the training of teachers, for the preparation of those intending to enter hospitals, for the training of household domestics. There are besides, courses for those who desire only one or two subjects without any idea of turning them into a future source of revenue, courses for Working Women and Girls, courses given in the home, besides special separate lessons in definite subjects which are given at the school and may be given at the home. Night courses are added to these and a wide schedule of both lectures and demonstrations.

"Students are received for any number of selected lessons or courses." Each course contains, on the average, ten lessons, though the training for certificate in the special subjects requires varying longer lengths of time. There are nine cookery courses offered. Three of these are demonstration courses on "Artisan Cookery," "Plain Cookery," and "Upper Household Cookery," varying in cost from 12/6 to 2/6, or from \$3.00 for ten lessons to

\$1.50 for six lessons. Special prices are made to Cooks and to Working Women and Girls. The practice courses in cookery include the following subjects as they are named in the catalog: (1) "Upper Household Cookery"; (2) "Plain Cookery"; (3) "Baking of Breads, Cakes, Scones, etc."; (4) "Sick Room Cookery"; (5) "Artisan Cookery" and (6) "Cleaning and Scullery." In the courses in actual cooking, the students may either buy at cost the dishes that have been made, or pay a higher fee for the lessons. The course in Upper Household Cookery is the most expensive of the six and costs either \$10.50 or \$7.50 if the products are bought. The course in Cleaning and Scullery is somewhat unique and includes cleaning of the range, copper, enamel, ordinary pans, crystal, silver, etc.

The work in Sewing, which we would designate as Domestic Art, includes eight courses: (1) Dressmaking (pattern making, fitting and measuring); (2) Blouse making; (3) Patterns for underclothing (patterns for shirts and children's frocks); (4) Knitting; (5) Patching and mending; (6) Advanced sewing, which we would call embroidery; (7) Millinery and (8) a course, as remarkable as the Cleaning and Scullery, which is called "Home Upholstery" and in which such work is taught as one ordinarily has done at the local upholsterer's or at the department store.

The course in Laundry Work is ten lessons in length with a fee of \$5.25, or one may take a half course of five lessons. The pupil is required to bring for the first lesson, six rough dried handkerchiefs, and one piece of underwear.

There are seven lessons in Home Bookkeeping, constituting a course which costs \$3.12.

The lecture courses which are given cover the following subjects: 1. Hygiene: (a) of the household, including foods, and (b) personal, including school.

2. Home Sick Nursing, a title that we in America extirpate to "home nursing," and would qualify by the term "before the doctor comes," or "when the trained nurse cannot be afforded."

3. Housekeeping. This course numbers ten lessons; and treats of the economics, the provisioning, and the division of labor of the household, of the cleaning of rooms, of the choice of foods, and of minute details of the dining room.

4. Methods of teaching and the theory of education, for which the fee is \$5.00.

There are five courses in special training for a certificate. These are:

1. A Cook's Certificate, for which the minimum time required is two months, the demand being for fifty lessons and a test dinner.

2. The Upper Household Cookery certificate. The minimum time is six weeks, and the work must cover attendance at demonstrations and twenty lessons, together with an ice lesson and a test dinner. The cook's certificate is a prerequisite.

3. Laundress' certificate. The work required is fifty lessons and demonstrations and a practical examination. The work includes training at a steam laundry.

4. Housewife's diploma. The fee is \$100.00. This course is intended primarily for young ladies as part of their ordinary education. It includes work in sixteen courses specified under cookery and sewing, together with lectures on bookkeeping, nursing, hygiene, household management, etc. It can and may be taken in six months, but must not extend over a period of two years if the courses are to count for a diploma.

5. Special training for Lady Housekeepers. Fee, \$85.00. It includes work in fifteen courses, much like the above Housewife's course, except that laundry work is a requirement. This, too, can and may be taken in six months, but must be taken within a year, and the student is required to be over twenty years of age. There are also prerequisites of what we would call grammar and high school education and of moral character.

For students desiring to enter on professional training for nurses a course is given covering two months, the fee for which is \$15.75. It includes lectures on physiology and hygiene together with lectures and lessons on sick room duties, invalid and plain cooking, cleaning and scullery. For one desiring the lectures only in this course the fee is \$10.50.

Training is given to teachers in cookery, laundry, housewifery, sewing, dressmaking, and millinery. The candidate for teacher of cookery, laundry work or dressmaking must be eighteen years of age, and for sewing, seventeen years. "The training for cookery, laundry work, housewifery, sewing and dressmaking are arranged in accordance with the requirements of the Scotch Education Department." Training may be begun September 8 or March 1, yearly. An extra fee of \$5.00 is required for examina-

tion on completing training. In Cookery the fee is \$175.00. The work includes learning by demonstration and practice; considerable cookery, physiology, and chemistry, together with practice teaching of children and adults, lectures on personal and school hygiene, and on the theory and practice of education. For Laundry Training the fee is \$84.00, and the training is much the same as for cookery, except that the practice and theory is that of laundry work. The Housewifery Teachers' Training costs \$63.00. For this is required a recognized diploma of cookery and laundry work as a prerequisite. It includes lectures and practice in household routine and management, mending, cleaning, etc., etc., practice teaching and demonstrating. For the Training in Sewing the fee is \$34.00. The work is that of simple sewing together with lectures on the theory and practice of education and hygiene, and a fortnight's practice teaching, besides what the catalog terms "test lessons." For the Training in Dressmaking a fee of \$42.00 is required, and the prerequisite is a preliminary examination in plain needlework. It includes training in advanced sewing, dressmaking, tailoring, and demonstrations and practice teaching, as well as lectures on education and hygiene. In Millinery the fee is \$34.00; the work demanded is attendance at demonstrations and four courses in practical millinery, together with practice teaching and demonstrations. There is besides these a course in so-called "High Class Cookery," for which the fee is \$52.50. It is open only to teachers already holding a diploma in cookery, and the minimum time is three months.

That is to say, the training for teachers includes specific training in their special subject, together with work in method and the history of education, in personal and school hygiene, with practice teaching and the giving of demonstrations. The training offered is arranged in such a way that the teacher may fit herself either for elementary or for secondary education in these special arts and sciences.

The annual report, in addition to information about the courses of study, states that "Staff Teachers have given 5,485 demonstrations and practice lessons, and in addition, have heard and criticised 335 Test Demonstrations by Teachers-in-Training. 2,598 pupils were enrolled in the School for instruction, varying from one lesson to extended courses, in addition

to the number who attended 350 Demonstrations and Lectures given by the Staff in other schools and institutions in Edinburgh and elsewhere."

Certainly with so much work accomplished on a budget of about \$35,000, and with so comfortable a balance as the report shows (about \$1,000) after all the improvements and the repairs which the School undertook in the past year, 1907-1908, the Edinburgh School of Cookery and Domestic Economy is to be congratulated.

Domestic Science in Newark, N. J. The JOURNAL has received from Miss Mary L. Caufield, Supervisor of Domestic Science in Newark, New Jersey, a statement regarding the development of Domestic Science in that city which will be of interest. It is as follows: "In the spring of 1902, Dr. Poland, Superintendent of Schools in Newark, N. J., asked me to plan for the equipment of two experimental kitchens, as he wished to try the teaching of cookery in the summer schools before introducing it as a part of the regular grade work. Of course, the expenditure for equipment had to be reduced to a minimum, until such time as the work warranted a greater outlay of money. In each of the two schools (Hamburg Place and 18th Avenue) two classes of twenty each were registered. The 18th Avenue girls received an hour-and-a-half lesson each morning, while the Hamburg Place girls received their lessons in the afternoon. This made six hours teaching a day with an hour at noon to change schools. The tables in these kitchens consisted of boards supported by wooden horses; on these were stood the gas plates which were supplied with gas through rubber tubes from above. There were no sinks in either kitchen, all water having to be carried some little distance from the courts. A scrub pail answered for a refrigerator. The work progressed beyond our most sanguine expectations, and at the end of six weeks the pupils cooked and served a course dinner to the Board of Education, the members of the Board being present at the preparation as well as the serving of the dinner. That winter I was requested to take charge of classes in the evening schools. The registration required the services of another teacher, and an assistant was appointed. The following fall, domestic science was made part of the regular grammar school course, and the work in the evening schools has grown to require the services of twenty teachers. Fourteen schools have well equipped kitchens; one school has three kitchens, and two have two kitchens each. The evening school classes include women from all walks in life, shop girls, young housekeepers and those expecting to be homemakers and classes of nurses from hospitals. It is not an unusual thing to find mother and daughter attending the same class in the evening school."

HOME ECONOMICS IN UNIVERSITY OF MINNESOTA.

JUNIATA L. SHEPPERD.

St. Anthony Park, St. Paul.

The University of Minnesota, located at Minneapolis, Minn., is composed of several colleges or departments, each of which fosters the interests of one or more special lines of work. The Agricultural College is the one of these with which the Home Economics course is connected. This course includes three distinct lines of work, each of which is presided over by a specialist in that line; Domestic Science, Domestic Economics and Domestic Art. Three or four courses of different length are offered under the general head of home economics: (1) Agricultural High School Course. (2) Home Economics College Course. (3) Teacher's Short, or Normal Course. (4) A General University Course, supplemented by one semester's work of eight periods each week in home economics, divided equally between domestic science and domestic art. The first is the shortest and most elementary of the courses; the second the longest and most thorough.

The Agricultural High School Course.

The former is designated as the Agricultural High School Course. It leads to no degree, prepares for no special professional or technical work. Its sole aim and object is to make better citizens. It proposes to accomplish this by imparting to as large a number as possible such knowledge as will be of greatest use in home life. This technical knowledge is combined with such general training as will render the graduates ready to meet the obligations of adults in their associations in family, society and public life. The chief idea of the founders of this school in inaugurating such a course was to provide a place with such environment, entrance requirements, educational facilities and class of students, as would render it most popular with the young people from the rural districts. They hoped, in this way, to provide a high school which would advance the interests of all rural communities, and give to country people advantages equal to those which city life and schools afford. That they made no mistake, the school attests, and it is well attended and now shows

good results in both rural and urban homes. This course, on account of its special adaptation to rural conditions, is in session during the autumn and winter only of each year, and extends through three school years. It is now open to students who have finished eighth grade work in either city or rural schools. No one specializes; all who enter pursue the prescribed course. The details of this course are given below.

Agricultural High School Course of Study.

[Figures in brackets indicate the number of periods per week in which the subject is pursued. All work in subjects marked thus* extends through double time in the daily program.]

FIRST (C) YEAR

FIRST TERM

Agricultural botany [5]	*Cooking [2]
*Drawing [2]	Physical training [2]
Music [2]	*Sewing [3]
Farm Mathematics [5]	Social culture [1]
	Field agriculture [3]

SECOND TERM

Agricultural botany [5]	*Laundering [2]
English [5]	Drawing (farm houses) [2]
Music or literary society work [2]	Physical training [2]
Comparative physiology [5]	*Farm Accounts [2]
Study of breeds [5]	

SECOND (B) YEAR

FIRST TERM

English [2]	*Farm accounts [2]
Agricultural physics [5]	*Cooking [2]
Dairy chemistry [2]	Household art [1]
*Dairy husbandry [2 ½] { Dairy lectures	Physical training [2]
{ Dairy practice	*Sewing [2]
{ Dairy breeds	
Fruit growing [3]	
Music [2]	

SECOND TERM

English [2]	*Cooking [3]
Agricultural chemistry [5]	Home management [1]
*Dairy husbandry [2 ½] { Dairy stock lectures	Physical training [2]
{ Dairy practice	*Sewing [2]
{ Domestic Bacteriology	
Music [2]	
Agricultural physics [5]	
Vegetable gardening [3]	

THIRD (A) YEAR

FIRST TERM

Agricultural chemistry [7]	* Cooking [2]
Forestry [3]	* Sewing [2]
Entomology and zoology [3]	Music [2]
Poultry [3]	
Algebra [5] Optional	

SECOND TERM

Civics or geometry [4]	Meats [1]
Plant propagation [3]	Home economy [1]
Entomology and zoology [3]	*Cooking [3]
Algebra [5] Optional	Domestic chemistry [3]
	*Sewing [3]
	Domestic Hygiene [1]

College Course in Home Economics.

The course numbered two above, is a four-year university course directed along home economic lines. This course leads to the Degree of Bachelor of Science in Home Economics. It is open to graduates of approved high and normal schools, and of course, to university graduates who wish to secure technical knowledge and better understand the application of the various sciences to the affairs of the household. Details of this course are given below.

College Course.

FRESHMAN YEAR

For graduates of approved High Schools or others of equal standing

FIRST SEMESTER

<i>Rhetoric</i> 1, three hours	<i>Domestic Science</i> 1, four hours
<i>Agriculture</i> 11, three hours	<i>Domestic Art</i> 1, four hours
<i>Agriculture</i> 1, three hours	<i>Drawing</i> 1, four hours
<i>Agricultural Chemistry</i> 1, five hours	<i>Domestic Economics</i> 1, three hours
<i>Horticulture</i> 1, two hours	<i>Physical Training</i> , two hours
<i>Entomology</i> 1, half semester, three hours	

SECOND SEMESTER

<i>Agricultural Chemistry</i> 3, six hours	<i>Horticulture</i> 3, half semester, four hours
<i>Horticulture</i> 3, half semester, three hours	<i>Dairy Husbandry</i> 1, half semester, four hours
<i>Animal Husbandry</i> 4, half semester, three hours	<i>Domestic Economics</i> 3, three hours
<i>Domestic Science</i> 1, four hours	<i>Animal Husbandry</i> 5, half semester, one hour
<i>Domestic Art</i> 1, four hours	<i>Physical Training</i> , two hours
<i>Drawing</i> 2, half semester, four hours	
<i>Rhetoric</i> 1, three hours	
<i>Mathematics</i> 3, half semester, three hours	

SOPHOMORE YEAR

FIRST SEMESTER

<i>Botany</i> 1 (B), six hours	<i>Rhetoric</i> 3, three hours
<i>Zoology</i> 1, six hours	<i>Domestic Art</i> 2, four hours
<i>German or French</i> 3, three hours	<i>Domestic Science</i> 2, four hours
<i>Agricultural Chemistry</i> 5, six hours	

SECOND SEMESTER

<i>Botany</i> (B) 1, six hours	<i>Rhetoric</i> 3, three hours
<i>Zoology</i> 1, six hours	<i>Domestic Art</i> 2, four hours
<i>German or French</i> 3, three hours	<i>Domestic Science</i> 3, one hour
<i>Agricultural Chemistry</i> 5, six hours	<i>Domestic Bacteriology</i> 4, one hour

JUNIOR YEAR

FIRST SEMESTER

<i>Domestic Economics</i> 2, three hours	<i>Agricultural Chemistry</i> 6, six hours
<i>Domestic Art</i> 4, four hours	<i>Agricultural Chemistry</i> 7, three hours
<i>Domestic Science</i> 5, four hours	<i>Psychology</i> 1, three hours
<i>Education</i> 1, three hours	

SECOND SEMESTER

<i>Domestic Science</i> 5, four hours	<i>Farm Structures</i> 6, three hours
<i>Domestic Art</i> 4, four hours	<i>Drawing</i> 3, four hours
<i>Education</i> 2, three hours	<i>Domestic Art</i> 3, three hours
<i>Agricultural Chemistry</i> 9, six hours	

SENIOR YEAR

FIRST SEMESTER

<i>Domestic Art</i> 5, three hours	<i>Farm Structures</i> 7, three hours
<i>Domestic Science</i> 6, six hours	<i>English, elective</i> , three hours
<i>Psychology</i> 2, three hours	<i>Elective</i> , three hours

SECOND SEMESTER

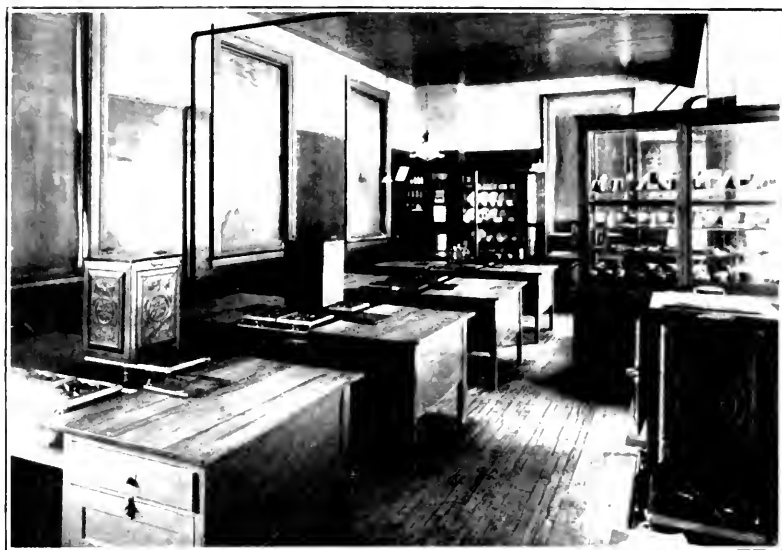
<i>Domestic Science</i> 6, six hours	<i>Horticulture, elective</i> , three hours
<i>Domestic Art</i> 6, six hours	<i>Elective</i> , three hours
<i>Agricultural Chemistry</i> 13, three hours	<i>Elective</i> , three hours

This course is intended primarily for training teachers, yet it endeavors to prepare all young women who come under its influence, for "home making." What the domestic science part of this course attempts to teach, and how this work is carried forward, may be briefly stated as follows: The first aim of this four-year course is to give proper emphasis to pure air and water and good food as the rational basis of health. Students spend much time during the first year, in such library reading and class

room work, as will enable them to understand the modern ideas in regard to composition and quality of food materials and their comparative food and money value. Practice is given in such methods of cooking as tend to render foods most palatable and digestible with the least possible waste. Laboratory practice, lectures, and class room discussions on similar topics, extend through almost the entire year. During the latter part of the second semester, however, a portion of the time is given to laundering and sanitation. These subjects afford an excellent opportunity for showing the application of chemistry, physics and other sciences, to household work. In the laundry, the application of the principles of chemistry appear in the preparation of water, the composition and use of soaps and other detergents, bleaches, bluing, starches and other agents. The application of science to matters of common experience give a new meaning to cleaning the wringer, precautions for preserving colors and safeguarding fabrics, washing with gasoline and other operations. Sanitation and ventilation offer a field for the applications of physics and again give an entirely new aspect to many otherwise vexing problems. The work of the last three years is carried on in a similar way, in the belief that students will, by means of constant lectures, text book work, library readings, laboratory practice, written essays and class room discussions, gain useful knowledge. During the senior year, practice teaching is required.

Students are expected by these means, to gain a comprehensive idea of food materials, their varying energy value and the food and energy requirements of the body; the changes in nutritive value due to cooking and other topics necessary to the intelligent management of a family dietary. By studying the different types of food materials, including their preparation and use, the students come to know standards of quality, to understand market conditions and detect adulteration, and to command approved methods of storing and preparing foods; in short, to be competent to care for the food of a family.

The scientific aspect of food must be united in the bonds of holy matrimony with a practical knowledge of the cook's art, before a man can discourse learnedly of food.—FOTHERGILL.



DOMESTIC SCIENCE LABORATORY, UNIVERSITY OF MINNESOTA.
(See page 130.)



NEW DORMITORY BUILDING, MISS ISUDA'S ENGLISH INSTITUTE, TOKYO.
(See page 133.)

A JAPANESE DEPARTMENT OF DOMESTIC SCIENCE.

Miss Ume Tsuda's English Institute in Tokyo, is one of the three private institutions for the higher education of women in Japan whose graduates receive government licenses to teach in secondary schools without further examination. The Japanese Government is making special efforts to strengthen and standardize its school system, which has expanded so rapidly that the quality of its teaching force and equipment could not keep pace with the number of pupils. In this new rigor of educational requirement, the recognition of the standing of Miss Tsuda's collegiate institution has great weight. It is the belief of Miss Tsuda that an understanding of western ideals and western thought would best help the Japanese girls adequately to fill their new place in the life of their country. Great stress is laid on the study of English literature and language as the key to this situation. Closely akin to the study of English in the understanding of western thought, is the study of science, and the institute is developing scientific courses as rapidly as laboratory equipment and teaching force can be provided. At present, the science courses are in special relation to the Domestic Science Department, which has been strengthened by the addition of Miss Yoshi Kawashima to the faculty. Miss Kawashima has studied for two years at Simmons College, and had previously had training in domestic science along Japanese lines. It is hoped that a special comparative study of dietaries can be made in connection with the two courses in Japanese and in English Domestic Science. Miss Tsuda herself was educated in America, living here for ten years, from the age of seven to seventeen. Later she returned to this country and studied for three years at Bryn Mawr, specializing in science. The college education of women is just beginning in Japan and the high standards which Miss Tsuda's Institute sets will have great influence in other institutions taking up the work. The accompanying illustration shows the new dormitory opened last September for some of the resident students of Miss Tsuda's school, and which provides equipment for instruction in domestic science.

"There are three companions with whom you should keep on good terms—your wife, your stomach and your conscience."

EXTENSION WORK IN HOME ECONOMICS.

MARTHA VAN RENSSELAER.

Cornell University.

The Home Economics movement began not with extension work but with academic study in colleges and technical schools. As the importance of the movement has been recognized the necessity of preparing lectures and demonstrations for the general reader and listener has been responded to by many colleges. Probably the west has done more of this than the east. Extension work has made rapid progress during the last few years. The New York State College of Agriculture at Cornell University perhaps took the initial step in its Reading Course for Farmers' Wives. Other colleges in the meantime have organized short courses for women, traveling schools, and have to some extent sent out printed matter. It is possible in this outline to report only a part of the work that is being done in different colleges.

The University of Illinois has worked out extension plans in three distinct lines. At a meeting of the High School Conference of the University of Illinois in November, 1907, a domestic science section was organized and a committee was appointed to prepare a syllabus on domestic science for use in the high schools of Illinois. The syllabus which has been prepared suggests an orderly development of the subject to meet different conditions. The University has this year sent one woman to thirty institutes of the state. Other members of the teaching force in the department of household science have spoken at other institutes whenever it could be arranged. Thus the department has had representation at no less than sixty institutes during the past year. The fourth annual session of the School for Housekeepers was held this year with a registration of 101, the most successful in its history. Thirty-one counties were represented. This school continues for two weeks. The course of instruction is planned to meet the needs of those students who specialize in other lines of work but desire a knowledge of household science, and, secondly, for those students who make a specialty of household science. An experimental house at the University is a source of much interest. It is open daily from 10 to 12 and from 1:30 to 4:30

and shows to visitors the principles of household decoration and equipment from an experimental standpoint. Unlike laboratory work, it gives students a real experience in the kitchen and other living rooms in a house.

The University of Wisconsin in its College of Agriculture offered February 9-13, 1909, a woman's course in home making. Lectures and demonstrations on food and cooking were given by Miss Clift and Miss Sater of the Wisconsin Farmers' Institute staff. Problems of home making were discussed by Mrs. Nellie Kedzie Jones of Kalamazoo, Mich. The farm home in its sanitary relations was treated by Miss Day of the Stout Manual Training School, Menomonee, Wis. A talk was given on the selection of pictures by Mrs. Hutchinson of Madison. Miss Abby Marlatt of the Manual Training High School, Providence, R. I., gave lectures upon home and school training. Miss Fye of Kalamazoo lectured upon practical home nursing and Mrs. Blair of the University of Minnesota upon textiles.

The Ontario Women's Institute Convention was held at Guelph, Ontario, in connection with the provincial winter fair. There was a large representation from the institutes of the province, making a daily audience of from 500 to 600 women. Assistance was had from the professors of the college on subjects which are of significance in women's household work. There is a very close connection between Macdonald Institute located at Guelph and the institute work in the province. The women in this way receive valuable aid in their study of household subjects.

The State College of Agriculture at Athens, Georgia, held a Conference of Farmers' Wives, January 19-23. The program shows valuable assistance from the State College of Agriculture and from other schools. Educational subjects were introduced to show the correlation between home and school life. There were exhibited at this meeting the work of the common schools, also labor saving devices and household conveniences and two traveling school libraries.

A Housekeepers' Conference was held in January at the University of Missouri in connection with various agricultural meetings. Miss Edna Day, Professor of Home Economics in the University, has succeeded in interesting the women of the state in the study of domestic problems in connection with her department. The program consisted of lectures, discussions and

demonstrations upon various household subjects. Miss Van Rensselaer of the New York State College of Agriculture gave two addresses, one on what the state may do for farmers' wives, the other upon household improvements. A unique feature of the instruction for the week was the model kitchen. This kitchen can be placed wherever desired either at the University or it can be used for extension work in the state. The size of the room and the places for doors and windows are indicated. A full kitchen equipment placed with reference to convenience in doing the work gives opportunity for study and criticism.

At the State Agricultural College, Fort Collins, Colorado, Miss Mary F. Rausch, head of the domestic science department, reports in extension lines that they have held nine short courses in various parts of the state, one of which was held at the College with a daily attendance of 205 women who rarely missed a session. At these meetings farmers' wives, club women, teachers and many young housekeepers are in attendance. In some places arrangements are made for the attendance of teachers and the pupils in the high schools. Under these conditions the pupils are excused for the entire week from regular school work; the teachers are in attendance, call the roll, correct the note books, grade the work and at the end of the week an examination is given to the girls on the week's work. In one western mining town women walked in every morning and walked home at night. They lived from two to three miles outside the town and the ground was covered with snow. At these meetings one dollar is charged for the week's work. In order to secure a short course a town agrees to pay \$100, which means that they may secure 100 women who will pay one dollar each for instruction. This amount is sufficient to pay for groceries, for a helper in the demonstration work, for traveling expenses, and the hotel bills of the instructors. The hall is furnished by the local authorities and the utensils are loaned for the purpose. These short courses have an average attendance for the entire week of 200. In several of the towns the club women have become interested in the enterprise with a view to introducing domestic science in the schools of Colorado.

At the Maryland Agricultural College under Mr. William L. Amoss, director of farmers' institutes, a unique work is being done. When the institute work first began in Maryland there were few farmers' organizations and not many women were

associated with the work. Short courses are organized wherever convenient in the state and instructors are sent to conduct the work in domestic science. The institute car developed from the idea of the special train and steam-boat, and the desire to introduce short course work into the rural districts. They bought a second-hand, superintendent's private car containing kitchen, hot-water heating device and lockers for stores. To this was added four upper berths similar to those found in a Pullman car. A section is used for the dining room. The remainder of the car is fitted with chairs, blackboard, case for charts and a stereopticon, for which they make their own acetylene gas. The windows are darkened during the day by heavy curtains. This car has been run for two seasons very successfully. Two lectures on Horticulture are given in the car and two lectures on Domestic Science by Miss Anna Barrows, morning and afternoon. Two men go out each morning to towns within driving distance to conduct the old style institute. Some days they inspect farms, orchards, buildings and stock and advise with the owners of the farm. They are now organizing committees among the men and among the women who will prepare programs and aid in the work of the department.

In Kansas the extension work has been carried on in connection with the farmers' institutes. The faculty of the home economics department at the Kansas State Agricultural College visited during the last year sixteen farmers' institutes, appearing twice on the program at each place. The work consists of demonstrations, lectures and judging bread and fruit exhibits. This work extended over six weeks and emphasis has been laid upon bread making, with a bulletin upon the subject and a score card with explanations as to its use. At the state farmers' institute held at the College during the Christmas holidays there was a domestic science department with an enrollment of sixty representing almost every section of the state.

At Ames, Iowa, under the Extension Department of the State Agricultural College a large work has been done to develop a greater interest in home making. Lectures and demonstrations have been given at the farmers' institutes, meetings of women's clubs, state and county fairs, teachers' institutes, schools and colleges. There have been ten short courses covering one week each in ten different localities of the state. Miss Edith G.

Charlton, in charge of the domestic science, gave during seven months of the past year 226 lectures and 90 demonstrations, explaining the principles of cookery and the effect of heat on different food materials. Other lectures and demonstrations have been given in sewing. The annual short course was held at the State College in December and other short courses have been held in ten different counties with an average attendance of about 125. At all of these meetings there was in addition to the regular class membership a daily attendance of from 25 to 75.

At the New York State College of Agriculture, Cornell University, the extension work consists first, of the Reading Course for Farmers' Wives; second, the organization of rural clubs for study of domestic and cultural subjects; third, the short course of three months at the college; fourth, the organization of the Home Makers' Conference, officered by women of the state and meeting during Farmers' Week at the college. The present membership of the Farmers' Wives' Reading Course is 11,800. Bulletins are issued during this year upon Sanitation accompanied by questions to be answered by members and returned to the College. A large correspondence in connection with this work is held with the members who have the privilege of asking for any information concerning the work of women in the home and on the farm. The members of the winter course in home economics are given twelve lectures each week upon domestic science with the privilege of taking work in addition in the dairy, poultry, horticultural or general agricultural departments. The laboratory is open to the students two afternoons of the week. During Farmers' Week in February an exhibit of a model kitchen, a laundry equipment, and household labor-saving devices was given at the College. There were 3,000 visitors during the week, many of whom both men and women inspected the Home Economics department. Miss Margaret Mitchell of Drexel Institute gave a course of lectures and demonstrations upon the cooking and preparation of cereals. A course of lectures upon health was given by specialists in the University. Lectures were also given by the faculty of the department upon nutrition, household management and household furnishing.

There will be additional reports in the JOURNAL regarding Extension Work. It is desired to have as complete reports from the colleges and schools of the country as can be obtained.

WOMEN'S INSTITUTES IN NORTH CAROLINA.

The report published in the *Bulletin of the North Carolina Department of Agriculture*, for the women's institutes conducted in that State in 1908, is an interesting and encouraging document. It is in part as follows:

"The holding of institutes for the women in the farm homes of North Carolina was inaugurated in 1906 and 21 institutes were held in 19 counties. During 1907 this work was greatly extended, there being held 50 institutes in 38 counties. During 1908 the number was also largely increased, 68 institutes being held in 46 counties.

"The success of these Women's Institutes has more than justified our assumption that an effort to improve rural conditions through the co-operation of the women on the farms would be as effective as the institutes for men had been. Allowing for the general lack of knowledge regarding the purposes or objects of these institutes, the interest in them and the appreciation shown for the information sought to be imparted have been very gratifying, and indicate very plainly that the women on the farms of the State are ready to take hold of the work and make it a tremendous power for the upbuilding of farm conditions and farm life. The best farms are impossible without the best farm homes, and a knowledge of modern domestic science is as important and useful to the woman who is to develop and maintain the ideal farm home of the future as is a knowledge of modern agricultural science to the man who is to build up a model farm.

"For the benefit of those not entirely familiar with the scope and nature of the work contemplated by these Women's Institutes, the following list of subjects is given as a sample of the topics discussed:

The Farm Fruit Garden, the Farm Vegetable Garden, Farm Poultry, Farm Butter Making, Beautifying the Home Surroundings, Home Conveniences, Literature for the Farm Home, Homemaking, Home Nursing, The Nutritive Value of Foods, Cooking Meats, Vegetables, etc., Bread Making, Educating the Girls on the Farm, and Home Sanitation.

"The usual practice has been to hold the Women's Institute on the same day and at the same place as the institute for men, but

in a separate hall. At least one and usually two separate sessions are held, which enable the women to form an organization of their own and permit of greater freedom in the discussion of special household topics, many of which would neither be instructive nor interesting to a mixed or general audience. Two women lecturers are usually sent out by the State to each meeting, and when a joint session is not held with the men, some of the lecturers from the men's institute usually assist at the women's meeting in the discussion of such subjects as dairying, poultry-raising and gardening. The object of these women's meetings, as with those for men, has been one of instruction rather than entertainment.

"The same general plan of organization has been followed with the Women's Institutes as with those for men. A county institute committee was selected in each county where an institute was held, and where there was more than one institute in a county a local committee was also organized. When these county committees become sufficiently interested and active then township or neighborhood clubs or institutes, with more frequent meetings, are organized.

"In many places in the State the women are organizing local branches of the Women's Branch of the Farmers' Institute. Some have become firm organizations, strong and self-supporting, and others are struggling still for even an existence. Extracts from an actual report of work done follow:

" 'We had an institute meeting in January which was a success, I think. We served a luncheon of sandwiches and coffee with fruit, given by the grocers. The plates this luncheon was served on were given by the merchants; each person took home a plate, cup, saucer, spoon, bottle of Wells & Richardson's butter color, a tablet and pencil, woolen scraps from Hargrave & Leak skirt factory, and several other little articles. The name of the merchant who contributed was on the article which he gave. We had a poultry show in connection with this. Our hardware men loaned us churns, stoves and the conveniences used in housekeeping; a system of hot and cold water was shown and explained. Pretty prints of "Gilt Edge" butter made by the ladies were sold. Different articles were sold or exchanged. Poultry was exhibited and quite a number sold. We had a good meeting'."

An interesting feature of the report is the statement regarding demonstration railway cars, one of which was used for domestic science instruction exclusively.

"The special trains are usually run so as to devote at most a few hours at a place, from three to ten stops being made each day. In this way much spectacular effect is obtained, but facilities and opportunities for teaching are sacrificed. While one whole day is all too little if much real instruction is to be given, there is unquestionably much to be gained in effective work by the facilities which one or two cars offer for carrying materials, apparatus and implements for demonstrations.

"During the past institute season it was determined to use two cars, one for domestic science demonstrations and the other for agricultural implements, seeds, spraying, and dairy apparatus, etc., for demonstrations at the men's meetings. A passenger coach from one end of which two seats were removed was fitted up as a modern kitchen with labor saving utensils and devices. In this kitchen was an oil stove, oven, ice box, kitchen cabinet, fireless cooker, sink and necessary utensils. The remaining seats of the car were utilized for seating those attending the demonstrations, and when the attendance was not too large the Woman's Institute was held in this car. It is believed that this is probably the first domestic science car ever run, but it clearly demonstrated its utility in rendering more effective the work of the women's institutes by offering facilities for actual demonstrations of many of the things taught. These cars were furnished and hauled free of charge by the Southern Railway Company, through the courtesy of the Land and Industrial Department of the company.

"These cars were used at thirty institutes, separate meetings for the men and women being held in the forenoon and for a part of the afternoon and joint meetings for the remainder of the afternoon and at night. The results obtained were more than satisfactory, especially with the domestic science car, and it is felt that this use of the car for the purpose of adding better facilities for teaching is the proper use of the special institute car or train rather than the spectacular effect, which has apparently been the chief aim and must result from the short time usually spent at each stopping place with the special institute train."

TRAVELING COOKING SCHOOLS FOR RURAL REGIONS, IN GERMANY.

M. SALM.

A skillful housewife is the first requisite for the comfort and success of every household, but the farm housewife is an especially important factor in the family life since her activities are not confined to the house alone but extend to the dairy and other farm enterprises.

The need for the satisfactory training of farm housewives led in Germany to the establishment of rural schools of home economics where farmers' daughters can receive an education which will fit them for their work as farmers' wives. Undoubtedly such schools have great importance as is shown by the many well trained housewives who have received instruction in them. However, it is equally true that they do not meet the needs of all the agricultural population. The bulk of the rural population in Germany are small farmers. In such homes the help of the daughters is needed, and even if this were not the case, it is seldom possible to provide the money required for tuition and other school expenses. Furthermore, many farmers feel that having attended such schools, the daughters would not be content to return to the simple conditions of their home farms. For this reason many German farmers are not very friendly to the regular type of rural schools of home economics. Nevertheless, good training is undoubtedly essential for all farmers' wives, for those in the humbler homes as well as for those on the prosperous farms. As a solution of the difficulty traveling schools were considered. Baden was the leader in this movement. For many years this province has provided for the rural regions numerous courses in cookery suited to local conditions and in sewing, bookkeeping, etc., which have been very well attended and popular. The Dill district of the province of Hesse-Nassau has also established traveling schools of cookery which are managed by trained teachers. These schools very soon become popular in rural regions and the movement is growing rapidly.

In the autumn of 1907, the district of Cöln, under the auspices of the district authorities, established the first traveling school of home economics. The teachers employed are well trained, and

give instruction in selected villages. Each teacher is required to give six courses a year, the courses being of six weeks' duration. Where necessary the township or village pays all or part of the expense of pupils who could not otherwise afford to attend the school. In order that the instruction may be as intensive as possible the number of pupils in a group is limited to twenty-four. These traveling schools soon become popular and it is proposed to establish them in other regions of the Rhine province.

Bavaria has also begun the establishment of traveling cooking schools. The Agricultural Section of the Bavarian Farmers' Association in Regensburg of which Dr. Heim is a leading spirit, decided in the autumn of 1907, to establish such schools and set aside money for the purpose. Two nuns well trained in the theory and practice of the subject were selected for the work and the courses cover four or five months in the winter. Since the Farmers' Association is responsible for the teachers and for the bulk of the other expense the cost of instruction to the pupils is very small. The farmers' daughters not only of the locality selected but also of the neighboring country attend, and so a fairly large region comes under the influence of this educational movement.

From time to time the number of these traveling schools has been increased so that they are accessible to the majority of the country villages in the province. The plan provides that courses be given in a stated locality every six or seven years. The village selected for such school work usually provides a school room free of cost.

In lower Franconia and in the Palatinate the traveling school movement has also begun. The attendance was large at the opening of the first school of this sort in Hundsfield in Lower Franconia and met with the approval of both the scholars and the parents.

The cost of establishing and maintaining a traveling school of this sort is estimated as follows:

INITIAL EXPENDITURE

2 portable cook stoves at \$20 each	\$40.00
2 sets of cooking dishes, etc	18.00
2 large folding tables at \$7 each	14.00
Plates, knives, forks and other table furnishings for 25 persons ...	10.00
Charts and other illustrative material.....	8.00
Books, etc., for teachers	5.00
Sum total	<hr/> \$95.00

CURRENT EXPENSES

Teacher's salary per term	\$25.00
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TOTAL EXPENDITURE PER TERM

Teacher's salary	\$25.00
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Estimated wear and tear of material and interest on investment ..	11.90
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Sum total	\$36.90
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The great advantage of the traveling school is that the students are able at once to put into practice in their homes whatever they have learned in school. Another advantage is that the teacher can visit the pupils' homes and see that they really understand what they have been taught. It is to be hoped that these traveling schools of home economics may do much for training housewives in rural regions and so contributing to produce satisfactory rural homes which are of the utmost importance to the State. *Translated from Deutsche Landwirtschaftliche Presse* 35 (1908), No. 25. pp. 275, 276.

Training Professional Cooks. According to the writer in a recent number of "The Illustrated London News" professional men cooks have held better positions than women cooks because as a whole they have had superior advantages as regards training. Some of the statements made regarding the training of professional cooks are of interest in a consideration of the general question of training.

"What Miss Nightingale did for nursing—the discovery of the way to enlist in its duties educated and cultivated women—is what is needed to elevate cooking as women's work. It needs brains, powers of organization, memory, acute senses, to be a first-rate cook. . . . In old days, the good family servants would take and train their youthful successors; and girls, in their early years at service, were content to take a small wage in consideration of the fact that they were, so to speak, apprenticed to learn their work. Now there are no elderly servants long settled in families, as a rule, to take an interest in the youthful new-comers into the field, and the ignorant little damsels, far from realizing that they have all to learn, expect to receive at once the wages of a competent worker. It is not so with boys who determine to be cooks: They are properly apprenticed to a chef to be taught, and are not paid at all, or very little, till they have learned their business. We require someone with the influence of a Miss Nightingale to impress on all would-be cooks the lesson about it that she so strongly inculcated about nursing—the absolute need of training. 'There is no such thing as amateur art,' she wrote, 'and there is no such thing as amateur nursing. Three-fourths of the whole mischief in women's lives arises from their excepting themselves from the rule of training considered needful for men.' Would that this could be realized about cookery."

A CAMPAIGN FOR HOME MAKING.

EUPHEMIA CLARK.

New York City.

Home making for wage-earners' families in congested city districts is one of the most difficult problems in modern social life. First, the standards and knowledge among women responsible for the homes are deficient; second, the conditions of home making are extremely hard.

A large number of women marry and set up housekeeping at about the age of twenty, after, on the average, five years' work in shop or factory. Work for them began as soon as the compulsory term of education was ended, so that, even if the home life was exemplary, opportunity to gain training from it was small. Often the standard is already lowered by the struggle against the difficult conditions of tenement life. Moreover, the mind has not been trained enough to profit by books and by experience. Thousands, in addition, have been transplanted in adult life, from peasant life in Europe, to city life in an English speaking country. They are especially likely to reap the harm and discomfort of city life and miss its benefits. If some have been for a period at domestic service, that advantage is partly nullified by the difference in their own and their mistress' standard of expenditure. Few of them are equipped with proper knowledge of food, hygiene, children, clothing, sanitation, and other factors in the home situation.

For them, moreover, the conditions of living are the very hardest. Wages are small, proportional expenditure for rent is great, available tenements have little space or privacy, practically no opportunity for quiet. With congestion of population, chances of healthful play are reduced, chances of diseases and bad habits are multiplied. The soil, wear and tear of clothing, is increased. Food, clothing and furnishings offered for sale are pretentious and inferior.

Could there be a more fruitful field for the professional teachers of home making than this? Let no one think the task hopeless; there are many proofs to the contrary.

The first requisite for the campaign is a good leader and administrator. She should have a thorough technical training,

an experience of life in the neighborhood where she expects to work, a sense of the social problems involved, a pleasing personality and abundant vitality.

The second requisite is a large number of responsible helpers with technical training. The emphasis is strong here on numbers. Standards of living are, to some extent, a community creation. Styles in housekeeping and child training can be set. They would be of powerful influence. But suppose the field of endeavor to be a metropolitan school district of approximately eighteen thousand children, of which a single block may contain fifteen hundred people. It will be conceded that the strongest personality reinforced with the best of training will still need help to make a marked effect on such a community.

It is already clear how beginnings could be made for this campaign. In the first place, there is a mass of material worked out by the trainings schools and available for teaching. It has to do with the values, chemistry, manufacture, preparation, digestion of food; with physical and mental welfare of children, with hygiene and recreation; with choice, planning, repairing, remodeling of clothes and furnishings. It is good material. It would be made use of in a thousand unconventional ways—in any way that opportunity seemed to suggest—perhaps seldom by formal class methods. Much information of food values must be given out in form as dogmatic as the "Don't spit" cards of the tuberculosis fighters. Sometimes the teachers will find themselves instructed in details of inexpensive management; then they can start a bureau of information among the neighbors. Many schemes of co-operation, e.g. in buying sheeting at wholesale, or owning a machine in common, might be successful under management. Some groups of women would enjoy and profit by a child study hour suitably conducted. In everything the work must be practically adapted to particular circumstances.

Besides the many opportunities for teaching and managing, there would come openings useful for experiment and investigation. For instance, a dozen individuals among the neighbors have tuberculosis but cannot afford the milk and egg diet. Is there any cheaper substitute? What are the best toys that can be made at a marketable price? Are ready-made children's clothes a good investment? How much loss is incurred by

purchasing food in small quantities? What are the variations in standard of living for a given per capita income? Could blocks A and B be remodeled into good living quarters and yield 4% on the investment? These are suggestions only of the dozens of questions which come up to be answered.

Beyond the teaching and investigation would come the use of records and the statement, for the use of other "social workers," of first hand facts accumulated. Is there a body interested in housing? Pass on to them the facts of convenient and inconvenient arrangement, about rise in rents, why neighbors live just where they do, etc., etc. Is there a health committee? Let them know the attitude of the neighbors on available dispensary and hospital service. Is it adequate? On what medical matters is the neighborhood most ignorant? How do the neighbors fear in contact with the police, the courts, the street cleaners, the Board of Health, the Public Schools? Pass on comment and suggestion where it will tell most. Make suggestions from experience to people interested in recreation and amusement. It has all of it direct bearing on home life.

For all of this work two things are needed; large personal acquaintance in the neighborhood and connection with betterment agencies. Both these factors point to the social settlement as the best starting point from which the leader can work. She would gain indispensable help through a permanent residence there, and residence for some months, before attempting to put her helpers to work. One settlement the writer has in mind could introduce this leader to several hundred families. For many of them she could be furnished with history extending over several years. Besides this wealth of acquaintance, she could have the use of various clubs and classes in the house, of a visiting nurse, an able health committee, a committee on education which had established cordial relations with the district schools, an art and industrial committee, a group of residents more or less intimately connected with the leading welfare committees of the city. Her object and theirs would be the same—better neighborhood life.

It would be the province of the leader to guide her assistants, and to pass on to them as much as possible of her experience. She would have to demand from them a certain amount of technical training. This has been something of

difficulty hitherto. Settlements can rarely afford to pay a large force of trained workers for one special purpose. Private endowment for the large sums required is difficult to secure, especially, a permanent annual income.

The most attractive solution seems to be the co-operation of training schools for teachers of home making subjects with the settlement, through a plan by which last year students under the trained leader, might be put into the field, and gain credit for college work. Such last year students, who have had considerable training in home economics, would be sufficiently advanced to be of real use, and on the other hand, would themselves profit by trying out their learning on the hard problems of tenement life. The plan is attractive because it promises to get work well done, and at the same time, train an ever increasing number in the social application of their work. The economic factors in domestic science would come to be more practically dealt with. Students who had elected the social work would be especially valuable in public schools. The fact that students so trained were available would tend to extend the scope of public school work, to the extent perhaps, of whole special courses in industrial schools. Properly administered, the course would create a kind of useful scholarship which any university might be proud to honor with credits.

It should be mentioned that the writer has by no means overlooked in this proposal, the various useful experiments already undertaken. In New York City, for instance, practically all settlements have classes in cooking. In one of them these are taught by practice pupils from a training school. Kitchen gardens flourish in many places. Model flats are kept in different parts of the city, one of the charity organizations has a trained advisor who goes about in the homes of its *clientele*, school lunches are served in two public schools.

These and others, are valuable and suggestive enterprises, but so far as the writer knows, none has reached the magnitude of a neighborhood campaign. It is believed that this could be done only by such a leader as has been described, directing her force of trained assistants against the difficulties of her neighborhood, and creating there a public understanding of needs and possibilities of good home making.

DIET IN THE PHILIPPINES.

DR. C. F. LANGWORTHY.

U. S. Department of Agriculture.

Though popular statements are often made regarding diet in the Orient the total amount of information on this subject which is based on actual dietary investigations is limited. It is frequently stated that the Oriental races live almost exclusively upon rice and that the total amount of food eaten is small in comparison with that of western races. As shown by the work of Oshima¹ and other investigators and by the writings of many who are familiar with the subject, rice fills the same place in Oriental dietetics as wheat flour, potatoes and other starchy foods do elsewhere. In Japan where domestic animals are few in number, fish and other sea foods are important articles of diet, while soy bean products, which supply nitrogen in considerable quantities, are part of almost every meal. These articles and a wide variety of vegetables, fruits and other foods make up a comparatively varied diet.

In China and some other eastern countries domestic animals are much more common than in Japan and make up a larger proportion of the total food supply. In most of these regions soy bean cheese or bean curd and other soy bean products are important, as are also sea foods, vegetables and fruits. It is worthy of note that milk is almost unknown as a food to the native population of China and Japan and some other eastern countries.

In considering the results of dietary studies it is also important to make comparisons on the basis of uniform body weight. This is particularly important in considering investigations in eastern countries as records show that not infrequently average weights are lower than is the case in the United States. As Oshima points out, some of the results of Japanese studies when considered on such a basis are in closer accord with American figures than is the case when this precaution is not observed.

Through the courtesy of one of the U. S. Government officials in Manila some data have been recently procured regarding the food of laboring men in the Philippines. The employer is expected to furnish rations in addition to wages, the regular ration

¹U. S. Dept. Agr., Office of Experiment Stations Bul. 159.

allowance for a Filipino being 1.25 pounds of raw rice and about .5 pound of raw fish per day. In addition to this some fruit for instance bananas will also be eaten and perhaps other food, but this part of the diet is not supplied by the employer. As a rule the native laborers eat two meals a day, the first about eleven o'clock in the morning and the second at night. The average weight of the Filipino working man is 110 to 120 pounds, the latter figure being considered a fair average.

It is generally conceded that the Filipino laborers work steadily and well.

On the assumption that .5 pound banana would be eaten in addition to the rice and fish mentioned above, the ration would supply .154 pound or 70 grams protein, and 2,340 calories per day for a man weighing 120 pounds. It is customary to compare dietaries on a uniform basis of 150 pounds body weight. On this basis the Filipino ration would supply 88 grams protein and 2,925 calories per day, values which are lower than those called for by the suggested American dietary standards for a man at moderate work, namely, 100 grams protein and 3,500 calories.

The reports of the Commissary General of the U. S. Army for the last ten years have contained much information regarding Filipino food conditions, rations for native soldiers, and other similar topics. The ration allowance¹ for native soldiers when the Islands were under Spanish rule was rice .95 litre, jerked beef, .1 kilogram, vinegar .01 litre, lard .02 kilogram, "Mongos (mungo beans) .14 litre, coffee .01 kilogram, sugar .02 kilogram. The ration was varied by substituting .35 kilogram of fresh meat or .15 kilogram of fresh or dry fish for jerked beef.

Following the usual method of calculation and using standard figures for the composition of the food, this ration would furnish 81 grams protein and 2,406 calories of energy. If it be assumed that the average Filipino soldier weighs 120 pounds, the above values would be equivalent to 101 grams protein and 3,007 calories for a man weighing 150 pounds.

It is a general custom in deciding upon a ration under conditions similar to those in the Philippines to select foods which in kind and quantity conform to the ordinary dietary habits and which will supply the necessities rather than the luxuries. Assuming that this was true of this ration, the above figures

¹Annual Report Acting Commissary General of Subsistence, 1900, pp. 28, 29.

would indicate that the ordinary Filipino is well nourished and that in proportion to his size his diet agrees rather closely with the commonly accepted dietary standards.

The Government official who supplied the data regarding Philippine laborers states that well-to-do Filipinos are hearty eaters and fond of meat, the quantities consumed at a meal being very large and that fat pork is a favorite dish. The numerous articles on Philippine dishes and Philippine cookery which have appeared since the Islands came into the possession of the United States bear out the statements regarding their fondness for meat and for foods rich in fat. This liking for fat food which is observed in the Philippines and which has been noted as well in discussions of diet in Cuba, Porto Rico, and other tropical and semi-tropical countries is interesting in itself, and also is another instance of popular misconceptions regarding diet, for the statement is frequently made that fat is not relished in the Tropics whereas the reverse seems to be the case.

St. Lawrence University, Canton, N. Y., has a School of Domestic Science in connection with the branch State Agricultural College established there by a recent action of the New York State Legislature. This is the first year of the Domestic Science course and there were thirty registrations of students who wish to teach Domestic Science. The original plan of the course was that it should be for home makers and the result in registration indicates that different plans will need to be made.

Home Economics Exhibitions. Workers in home economics will be interested in the *Women of All Nations Exhibition* at Olympia, September 1st to the 28th, 1909. The Domestic Economy

Section is being arranged and organized by *The Epicure*. It is to contain the following sub-sections: (a) Exhibits of Domestic Economy Schools Illustrating Methods of Training in Domestic Subjects; (b) Demonstrations in Cookery; (c) Demonstrations in Sweet-making with Exhibits; (d) Inventions of Women tending to Promote Domestic Economy; (e) Literature; (f) Commercial Exhibits: Foods, Beverages, Cooking and Laundry Apparatus, Culinary Utensils and Appliances, etc. Applications for space should be made to the editor of *The Epicure*, 95 Wigmore Street, London, W., England.

Last summer an Exhibition of Home Work of Women was held at Frankfort-on-Main. The guide which was published would be of interest to persons concerned with the management of such exhibitions (Führer durch die Heimarbeit-Ausstellung, Frankfurt a. Main, 1908. Im Auftrag des Ausstellungs-Vorstandes bearbeitet von Earnst Schreiner. Kornsand & Co., publishers, Frankfurt a. Main).

FOOD OF MEXICAN LABORERS IN MEXICO AND THE UNITED STATES.

In an article entitled "Mexican Labor in the United States" by Victor S. Clark, Ph.D.,¹ considerable information is given regarding home life and standards of living food and diet of Mexican laborers. The general opinion expressed is that the Mexicans have a better, more generous, and more varied diet in the United States than in Mexico.

The following is quoted as the weekly ration of a family consisting of a man, wife, and children too young to work, living on a plantation in the extreme southern portion of Mexico where wages are relatively high and labor is scarce: Dried beans, 3.3 lb. rice 2.2, coffee 1.3, brown sugar 2.2, meat 6.6 lb., lard $\frac{1}{2}$ bottle. After some correspondence on the subject it seems fair to assume that a half bottle of lard represents a pound. Assuming that this is the case, that the two children in the family were infants or very young and that accordingly they may be left out of account in the computations, the protein and energy furnished by the ration has been calculated in the usual way with the aid of average figures for the composition of the foods. The results show that the ration would furnish on the per man per day basis 77 grams protein and 1,671 calories of energy.

Such calculations as the above are of necessity lacking in accuracy, a fact which should always be borne in mind in making use of them. The values obtained, however, are of interest and without doubt give a fairly good idea of the diet. From general information regarding the Mexican diet collected from other sources it seems almost certain that chili peppers, tuna or other cactus fruits, and presumably some other similar foods were eaten in addition to the articles enumerated. If this was the case, the nutritive value of the diet would of course be correspondingly increased. The body weight of the man and his wife was not given and so it is not possible to recalculate the values given above to the basis of 150 pounds body weight.

It is noticeable according to Doctor Clark that Mexicans in the United States are very fond of meat though they have not been accustomed to much of it in their own country. One contractor

¹ U. S. Dept. Com. and Labor, Bur. Labor Bul. 78, pp. 466-522.

said of his laborers from Old Mexico: "They gorge themselves on meat."

Doctor Clark's report gives much information regarding the food habits and diet of Mexican laborers in the United States, their general living conditions, and related topics. In this connection it is of interest to recall dietary studies of Mexican laborers reported several years ago from the New Mexico College of Agriculture and Mechanic Arts by Professor Arthur Goss.¹ Professor Goss carried on three dietary studies of Mexican families in poor circumstances and one of a family in moderate circumstances, all living in Los Cruces, New Mexico, or in the neighboring country. In connection with this work he analyzed a number of typical food products and gives a considerable amount of accurate information regarding methods of preparing food, dietary habits, and general food conditions.

Considering the average results obtained with the four families, the diet supplied 94 grams protein and 3,550 calories of energy per man per day, at an average cost of 7 cents. The diet of these families was very simple, consisting principally of frijoles, or native beans, chili peppers, corn, wheat flour, and lard, with some vegetables, and in every case except one a little meat.

The following statements are made regarding the preparation of the food:

"In the houses of the poorer class the cooking is done in an open fireplace, usually in one corner of the room.

"The 'tortillas,' or cakes made of flour or ground corn, are one of the most generally and extensively used foods. When the tortillas are made from corn, the kernels are first boiled with lime, which softens them. The skin is then usually though not always removed, and the grain is ground in a crude stone grinding apparatus or 'metate,' consisting of a concave slab of stone and a smaller convex piece, which is held in the hands and which serves as a pestle. The grinding is not rotary, however, as in an ordinary mortar, but up and down, toward and from the body. The corn is usually a small blue kind, rather soft, which seems to contain somewhat more than the average amount of fat. After the corn has been ground into a mush on the metate it is patted out in the hands into the tortillas. Corn tortillas are never

¹U. S. Dept. Agr., Office of Experiment Stations Bul. 40—Dietary Studies in New Mexico in 1895. U. S. Dept. Agr., Office of Experiment Stations Bul. 54—Nutrition Investigations in New Mexico in 1897.

rolled, as is the case with those made from flour. If flour is used, it is mixed into a dough with water and the cake rolled out from it. The flour used is not ground in the metate, but in the ordinary flouring mills. It is usually of poor quality, coarse and dark colored. After being worked into the proper form, the tortilla is baked on a flat piece of iron, supported directly over the fire in the open fireplace, the iron being first greased with lard. As soon as it is done on one side the tortilla is turned by pressing the moistened fingers against the upper side of it, thus causing it to adhere to the fingers, whereupon it is deftly turned and the opposite side is browned.

"The frijoles or beans are cooked in small homemade earthenware pots, and are almost invariably combined with a very liberal proportion of chili and also considerable lard.

"The chili is cooked alone, and also with various other articles of food. It is prepared by first removing the stems and seeds of the pods, which constitute somewhat more than half of the total weight, after which it is sometimes ground in the metate, but is usually soaked in water and the inner or edible portion separated from the outer skin by squeezing in the hands. Owing to the extremely strong irritating effect on the hands, this operation cannot be performed by an amateur. The Mexican women, however, become so accustomed to it that it seems to have no effect on them.

"Among the poor families the meals are served on the floor in the middle of the room, the family sitting on the ground around the food and eating without knives, forks, or plates.

"The houses of the poor people are usually supplied with skins of sheep and other animals, which serve both as chairs and beds for the children. When grinding corn and other articles in the metate and doing other kinds of housework, the women usually sit on the floor on these skins."—C. F. L.

The time indeed is at hand when systematic lectures on food will be a part of medical education, when the value of feeding in disease is admitted to be as important as the administration of medicines.—FOTHERGILL.

Myriads of our fellow-creatures have perished because those around them did not know how to feed them.—FOTHERGILL.

THE EFFECT OF COOKING ON CELLULOSE.

Since the illustration from König on the "Effect of Cooking on Potato," shown in Hutchinson's "Food and Dietetics," page 397, continues to reappear in new text books, it seems time that this authority should be challenged in print.

Some five years ago the writer found on examining a cooked potato, both boiled and baked, that no breaking of the cell walls had taken place. The middle lamella which holds the cells together had dissolved and the cells separated from each other. Every year since we have had classes try the experiment but have never yet found the cell walls to break. If, however, saliva is added to these unbroken cells, the starch filling them is very quickly digested, as shown by the fact that they no longer give the blue color with iodine, proving that the breaking of the cell wall is not at all essential for ease of digestion. While no broken potato cell walls have been found in the writer's experience, according to the results of Professor Gilmore of Cornell in results published in *Farmers' Bulletin* No. 244, (1906), the following statement is made:

"In cooking, mealiness is the most important consideration in estimating quality. In general, mealiness follows upon the presence of sufficient starch in the cell to rupture its walls when boiled in water. The grains of potato starch expand and coalesce when boiled in water, and if the walls are sufficiently full of these bodies the boiling will cause the cellular structure to be broken down, and a degree of mealiness is the result. When the requisite amount of starch is not present in the cell its walls are not broken down in cooking; hence the tuber retains its form or is soggy."

It would seem, then, that under some circumstances König is right, but by no means always. The potatoes examined have not seemed to lack particularly in mealiness.—EDNA D. DAY.

It is irritating, nay more, a deeply saddening problem for a wise dyspeptic to ponder, the superabundance in this little world of ours of things cookable, and the extreme rarity of cooks.
—MAARTEN MAARTENS.

WOMEN'S CLUBS AND THE INTRODUCTION OF DOMESTIC SCIENCE INTO SCHOOLS

MAURICE LEBOSQUET

American School of Home Economics, Chicago

It is always interesting to trace the beginning of things, and oftentimes in investigating the beginnings of domestic science in the public schools, it is found that the local women's club has been instrumental in introducing the subject. Once started the work usually grows by reason of its very apparent value.

The following letter from Miss Emma A. Winslow, the teacher, tells how domestic science was introduced into the high school of Rutland, Vermont. The method and results are typical.

"A year ago the Women's Club offered to give the equipment for a cooking school kitchen and furnish the room for one year if the Board of Education would furnish a teacher and pay the running expenses. Although little enthusiasm was shown by the school officials, they decided finally to accept the offer.

"Two small adjoining rooms in the building where the rooms of the Women's Club were located, were rented and furnished to accommodate a class of twelve girls. The course was offered as an elective to members of the first year class in the high school and about fifty girls availed themselves of the opportunity. Two of the four classes have met on Saturday, the others meeting on school days.

"There has been increasing interest and enthusiasm throughout the year. At their June meeting, the School Board voted practically unanimously to continue domestic science as a part of the regular program and to fit up a room in the high school building for a kitchen. All but two of the ninth grade girls have signified their intention of taking cooking next year, and forty of this year's class wish to take up the second year's work. Much interest in the work has been shown throughout the state.

"The total cost to the Women's Club for starting the work has been about \$150.00, most of which has been raised by lectures and entertainments. The room rent has been the largest item. The total cost of the equipment was \$85.70. It is simple, but provides as much for each girl as is absolutely needed and as much as each would have in her own home.

"As the kitchen was only an experiment, we did not want to burden ourselves with too much expense. We found two long counters which had formerly been used in a music store and secured them for seven dollars. One contained four long shallow drawers and the other two. Each drawer was fitted up to accommodate two pupils and a class of twelve thus provided for. We had some difficulty in placing the counters in the room (9x12 ft.), and finally placed them against two walls. The gas connections were simplified in this way, but it made it somewhat hard to keep watch of the girls when at work.

"We also found at the second-hand store a large cupboard with glass doors which we bought for five dollars and used to hold the serving dishes and the extra cooking utensils. Then we bought for three dollars and a half a chest of drawers which the girls used to hold their aprons. This constituted our furniture, together with a dining table loaned to us and a small table (also loaned) which I used for a supply table.

"We painted the counters white and covered the tops with 'Sanitas' which I have found very satisfactory as it does not crack or peel. The cupboards were also painted white, and with dainty muslin curtains at the windows, we had a very attractive kitchen.

"Six gas hot-plates were placed on the counters and one large gas range provided. The Gas Company gave us free gas during the year. The sink was placed in the room by the owner and so made us no expense.

"The counters, supply cupboard and small table filled one room. The other one contained the sink, large stove and large table and chairs in which the girls sat while I was outlining the lesson.

"I had more individual equipment than I should have had if the drawers in the desk had not been so roomy. Each girl had a white bowl, two measuring cups, a case knife, fork, two table-spoons and two teaspoons. Each drawer also contained a rolling-pin, wooden spoon, egg beater and utensil plate to be used in common by the two girls. The double boilers, sauce pans, baking tins, etc., I kept in the cupboard and also all the serving dishes. The total cost of the dishes was about twenty-five dollars. In detail the cost of the equipment was as follows:

COST OF EQUIPMENT, KITCHEN LABORATORY, HIGH SCHOOL, RUTLAND, VERMONT.

Furnished by Rutland Women's Club.

1 Counter with four drawers (work table for 8 girls)	\$4.00
1 Counter with two drawers (work table for 4 girls)	2.50
1 Cupboard, glass doors above, (for supplies)	5.00
1 Desk, with four drawers, (for aprons)	3.00
Carpenter's work repairing counters, etc.	3.72
Painter's bill, painting furniture white	6.60
5½ yds. "Sanitas" to cover counters, etc.	1.38
8 yd. dotted muslin for sash curtains	1.20
1 Gas Range \$17.50; 4 Hot Plates, \$5.00; Piping, \$8.00	30.50
Crash for towels and dish cloths	2.94
Set of cooking utensils for 12	24.86
Total cost	\$85.70

DETAILS OF COOKING UTENSILS FOR CLASS OF TWELVE.

Individual (kept in desks)		Upper shelf in lower part of cupboard	
2 doz. tablespoons @ .40c	\$.80	2 flour cans @ .10 . . . . .	.20
2 " teaspoons @ .25c . . . . .	.50	1 sugar can . . . . .	.10
1 " knives and forks @ .75c	1.50	6 agate wash basins (for dish	
6 wooden cake spoons @ .08 . . . . .	.48	pans) @ .10 . . . . .	.60
2 doz. measuring cups @ .05	1.20	6 agate pans (for rinsing pans)	
6 biscuit cutters @ .05 . . . . .	.30	@ .10 . . . . .	.60
6 salt dishes @ .03 . . . . .	.18	Lower cupboard	
6 small strainers @ .05 . . . . .	.30	1 dripping pan . . . . .	.25
6 small platters @ .05 . . . . .	.30	1 meat rack . . . . .	.20
6 large platters (utensil plates)		3 layer cake tins @ .06 . . . . .	.18
@ .10 . . . . .	.60	2 square " @ .10 . . . . .	.20
12 white bowls @ .05 . . . . .	.60	3 bread tins @ .10 . . . . .	.30
3 rolling pins @ .15 . . . . .	.45	3 pie " @ .06 . . . . .	.18
3 Dover egg beaters @ .10 . . . . .	.30	2 sheets cup cake tins @ .15 . . . . .	.30
Utensils (kept in cupboard)		1 large frying pan . . . . .	.15
Upper shelf.		3 small " @ .05 . . . . .	.15
12 plates @ .10	1.20	2 large agate saucepans @ .40 . . . . .	.80
6 oatmeal dishes @ .10 . . . . .	.60	1 kettle . . . . .	.35
12 cups and saucers @ .10	1.20	1 steamer . . . . .	.40
6 tumblers @ .10 . . . . .	.60	1 colander . . . . .	.15
1 large pitcher @ .10 . . . . .	.10	1 1-qt. baking dish . . . . .	.30
6 pop over cups @ .05 . . . . .	.30	1 large jelly mould . . . . .	.25
3 large yellow bowls @ .15 . . . . .	.45	1 cookie sheet . . . . .	.15
1 lemon squeezer @ .10 . . . . .	.10	1 chopping bowl . . . . .	.15
1 large strainer @ .10 . . . . .	.10	1 knife . . . . .	.10
4 paring knives @ .10 . . . . .	.40	1 broiler . . . . .	.10
2 flat egg beaters @ .05 . . . . .	.10	2 pan cake turners @ .05 . . . . .	.10
1 potato masher @ .10 . . . . .	.10	Miscellaneous	
1 ricer @ .10 . . . . .	.10	2 "Magic" covers @ .50	1.00
1 apple corer . . . . .	.10	1 teakettle	1.50
1 can opener . . . . .	.10	1 scale	1.25
1 butter cup and brush . . . . .	.10	1 sink strainer . . . . .	.25
1 nutmeg grater . . . . .	.05	1 garbage can . . . . .	.85
Bottom of upper cupboard			\$31.08
6 small agate sauce pans @ .16 . . . . .	.96	Less 20% discount	6.22
6 larger @ .20	1.20		\$24.86
6 small double boilers @ .55	3.30		
1 large . . . . .	.85		
2 flour dredges @ .10 . . . . .	.20		

"Just this plan for a cooking school kitchen would probably not be adaptable under all circumstances, but it has met our needs well this year and paved the way for an ideal kitchen next year."

Without doubt much of the success of this cooking course was due to the teacher, who is a graduate of Simmons College. A resourceful teacher can accomplish a great deal with any kind of equipment, but this is not saying that better work cannot be done in a first-class cooking laboratory. Surely the teaching of domestic science calls for as good an equipment as is needed for teaching chemistry satisfactorily.

Although domestic science has been widely introduced in the public schools during the last few years it seems sometimes that its progress is unnecessarily retarded by the lack of a compelling force to voice the need. There are no commercial interests to profit by the extension of home economics education—only the homes of America. The home makers of America are a tremendous force, however, and often this force can be exerted most effectively through the Women's Clubs. Much has been done in extending home economics by the Women's Clubs—much more remains to be accomplished.

**Proposed State
School of Health.**

The success attending a course of lectures on sanitary science and public health now being given at Cornell University under the joint auspices of the University and the State Department of Health, has led to the framing of a bill, which calls for the establishment of a State School of Sanitary Science and Public Health at Cornell University. In the bill the general purpose of the School is stated to be "to aid in acquiring practical knowledge and in diffusing useful information on subjects relating to sanitary science and public health among the people of the State of New York, and to promote scientific investigation and research respecting the principles and application of sanitary science."

**Cleveland
Association.**

The Domestic Arts Association, Cleveland, Ohio, has issued a booklet containing its program for 1908-1909 with its list of members and constitution and by-laws. Its membership numbers only about twenty-five, according to the list, but its program shows a well organized and useful plan of meetings. Monthly meetings are provided with topics having to do with the social aspects of the home. Topics of its meetings for the year have been as follows: Family Life Among Animals, Miss Huntington; Marriage in Primitive Life, Miss Isla Campbell; The Family Clan, Miss Mary J. Hunter; Contribution of the Home Industries to the Arts and Sciences, Mrs. Alice G. Kirk; Family of the Present, Miss Nellie Clendon; and The Future of the Home, Mrs. Ada B. Williams.

EDITORIALS.

The Literature of Home Economics.

When one speaks of "the literature of home economics," one thinks at once of the wealth of new books which are coming out in this field. One should not, however, lose sight of the books of the past, especially those which deserve to be termed classics because of general currency and long pre-eminence. There is another type of older book, too, which unlike the classic book passes usually into obscurity, namely, the first scientific efforts in any field which with the progress of knowledge are usually forgotten. The JOURNAL presents this month articles on books of both these types. The *Physiology of Taste* by Brillat-Savarin, will probably keep its place as a classic, along with the works of Miss Beecher to use an American illustration, or, to quote the most prominent example of all, Xenophen's *Oeconomicus*. The article on Caleb Tichnor, refers to the work of a scientific beginner in this field. We may each find courage or humility as needed in the fact that men and women have for generations worked at the problems of living that confront us; and again all may gain a wider outlook as well as a satisfying charm in world books like that of the brilliant Frenchman or the philosophic Greek. From time to time, the JOURNAL will publish other articles on the old time literature of home economics which will, it is hoped, be of continued interest to its readers.

The College Course.

The course of study of women's colleges was a matter of discussion in the first Lake Placid Conference on Home Economics over ten years ago, and the colleges were urged to give a place in their curricula to subjects concerned with daily living and the household. Since then real progress has been made in many colleges. That the contest for progress is not yet ended, is indicated by the following note: "The New York Branch of the Association of Collegiate Alumnae has this year been making a study of the deficiencies of the college curriculum in the lines of hygiene, both personal and public; the development of the child; the family; and political science and the elements of law in the direction of helping toward more intelligent citizenship. The

Branch is studying what is desirable and possible to introduce into the college curriculum, with the idea of emphasizing the responsibility of the college man and woman, to render service toward the public good, and to fit the individual to render it more intelligently." Persons who are especially interested in this problem, or who can make contributions to the investigation, will do well to communicate with those in charge of the study.

**Traveling Schools
in Domestic
Science.**

There appear elsewhere in this issue, two references to traveling schools of home economics. The Department of Agriculture of North Carolina has for two years maintained a Domestic Science Car, which is moved about the State and is used for demonstration lectures and other instruction in domestic science. The article on "Traveling Schools of Cookery in Germany" suggests another way in which the teachings of home economics are being brought home to the people. In agricultural education, the use of the railroad car has come to be quite common. The States of Maine, Massachusetts, New York, Pennsylvania, Maryland and Iowa, and doubtless others, are now using railroad cars for this purpose. The widespread adoption of this method in the field of home economics seems desirable and workers in home economics in the various States, not only those in educational institutions, but their co-workers in the women's club movement, might well take up this question with the State authorities.

**Executive
Committee.**

The Executive Committee of the American Home Economics Association has now been completed by the election, by the Council, of five of its members to serve with the elected officers as the Executive Board of the Association. The Executive Committee as now made up, includes the following persons: Mrs. Ellen H. Richards, President; Miss Isabel Bevier, 1st Vice-President; Dr. C. F. Langworthy, 2d Vice-President; Miss Mary Urie Watson, 3d Vice-President; Mr. Benjamin R. Andrews, Secretary-Treasurer; Members from the Council: Miss Helen Kinne (for one year); Miss Emma S. Jacobs (for two years); Miss Caroline L. Hunt (for three years); Miss Mary S. Snow (for four years); Mrs. Alice P. Norton (for five years).

Plans are making for the meeting of the **Denver Meeting.** American Home Economics Association at the Denver Convention of the National Education Association, July 5-9. The arrangements have been put in the hands of a committee composed of Miss Edna D. Day of University of Missouri, Miss Rosa Bouton of University of Nebraska, Miss Mary F. Rausch of Colorado Agricultural College, Fort Collins, Miss Gertrude Vaile, 1610 Emerson Ave., Denver, Colorado, and Miss Minna A. Stoner of University of Wyoming. Home Economics teachers of the West should plan to attend the Denver meetings. Details of the program will be published in the June issue of the JOURNAL OF HOME ECONOMICS.

Nutrition Investigations. The Agricultural Appropriation Bill which was enacted at the close of Congress, provides as follows regarding the nutrition investigations which have been carried on under the Office of Experiment Stations of the United States Department of Agriculture:

"Nutrition Investigations: To enable the Secretary of Agriculture to investigate the nutritive value of agricultural products used for human food, with special suggestions of plans and methods for the more effective utilization of such products for this purpose, with the co-operation of other bureaus of the department, and to disseminate useful information on this subject, including rent and the employment of labor in the city of Washington and elsewhere, and all other necessary expenses, ten thousand dollars."

This provision will be gratifying to all who know of the valuable work which has been carried on by this division of the Department of Agriculture in increasing the fund of human knowledge regarding human nutrition and in disseminating popular information on this subject.

Men as Cooks. The *Illustrated London News*, American edition, February 6, 1909, contains a reference to the recent Food and Cookery Exhibition in London, at which cooks from various institutions and from the Army and Navy, took part in competitions. The Army Council provides for the exhibitions a silver challenge shield for military hospital cooking, which was won this time, by the men who cook for the Millbank Hospital. Naval cooks won 946 out of a possible 1000 marks in their competitive work. The article closes with the comment that the serious attitude toward cookery which these men take is all quite as it should be.

THE NATIONAL HOUSEHOLD ECONOMIC ASSOCIATION 1893-1903.

MRS. LINDA HULL LARNED.

The famous Women's Congress of the Chicago Exposition of 1893, awakened the public mind to the fact that matters pertaining to the household, had not kept up with the procession of progress. Therefore, a day was appointed in which to investigate this neglected science and the result was the organization of an association aimed to benefit the home makers of this country and to be National in scope. The organization took as its name, The National Household Economic Association, and Mrs. John Wilkinson of Chicago, was elected its first president, and Mrs. Ellen M. Henrotin, honorary president. Mrs. Wilkinson proved a most efficient and executive leader, and with the assistance of Mrs. Henrotin and many other well known women was able to induce the Women's Clubs of the country, to take an active interest in all education pertaining to the betterment of the home. The Association planned to work especially through women's clubs. The objects as declared in its constitution were as follows:

"1. To awaken the public mind to the importance of establishing bureaus of information where there can be an exchange of wants and needs between employer and employed, in every department of home and social life.

"2. To promote among members of the Association a more scientific knowledge of the economic value of various foods and fuels, a more intelligent understanding of correct plumbing and drainage in our homes, as well as need for pure water and good light in a sanitarily built house.

"3. To secure skilled labor in every department of our homes and to organize schools of household science and service."

Mrs. Wilkinson was followed as president, by Mrs. Ellen Harbart, of Illinois, and Dr. Mary E. Green, of Michigan, succeeded Mrs. Harbart as president. By this time the organization had become generally recognized through the efforts of State vice-presidents who in turn presented the subject and supplied literature to the clubs and educational institutions of their representative states. During Dr. Green's presidency, Household Eco-

nomics was given a place on the program of the conventions of the General Federation of Women's Clubs, and also at many of the meetings of the State Federations. Dr. Green was called upon to speak at these meetings as also were many other workers in the field. The subject met with an enthusiastic reception at the Denver Biennial of the General Federation, and the women throughout the West were ready to enlist in this new, yet very old, enterprise. Mrs. Larned, of New York State, succeeded Dr. Green and under her régime the subject found favor at all the Biennial conventions during the four years that she was in office, and no less than thirty-five States, as well as Canada, were represented by vice-presidents. Mrs. Larned not only presented the subject at these National and State meetings, but was invited by Mr. Peck, our Commissioner to the Paris Exposition, to take part in the series of Congresses that were held in the Palais de Congress during that summer and was given a prominent place on the program of Women's Works and Institutions at this Congress.

The Association held its annual meetings during the ten years of its existence, in different states, and at the invitation of local organizations, its last meeting was held in Toledo, Ohio, October, 1903. As by this time the objects and aims of the Association had become thoroughly incorporated in the work of the General and State Federations of Women's Clubs, and as the Lake Placid Conference was now doing much better work along the same lines, it was decided at the Toledo meeting to merge the work of the Association into that of the Committee of Household Economics of the General Federation of Women's Clubs. The following year the first report of a committee on Household Economics was made at a General Federation Convention, at the meeting in St. Louis in 1904.

The National Household Economic Association published and circulated annual reports containing summaries of work and progress in the States, and from time to time, published Outlines of Study, and also addresses of importance given at its annual conventions. The Association was entertained two or three times in Chicago, and once in Atlanta, in Toronto, in Buffalo, in Milwaukee and Toledo.

There are now many schools of Domestic Science in flourishing existence which owe their inspiration to the efforts of the

workers in the National Household Economic Association, and in many towns and cities it was more or less instrumental in introducing manual training and domestic science for girls in the public schools. It may well be regarded as one of the most important movements which paved the way for the American Home Economics Association.

**Food in Chinese
Turkestan.**

In an article entitled "The New Province Two Thousand Years Old," by E. Huntington, in Harper's Magazine for December, 1908, which is descriptive of the author's travels in Chinese Turkestan, considerable information is given regarding the food habits of the people and the effects of their food on their general condition and efficiency.

For over 2,000 years the Chinese have been the dominant race in this region though their political supremacy has been lost at intervals and then regained. The mountain regions are inhabited by Khirghiz nomads who have large herds of horses, cows, sheep, and goats, and according to the author are generous users of meat and milk in their diet. These people are strong, vigorous and decidedly superior in these qualities according to his statements to the Chantos who are the chief inhabitants of the plains—"a weak-willed people, pleasant and easy to deal with, but lacking the stronger virtues, and sadly prone to all manner of self-indulgence." The Chantos grow large quantities of peaches, nectarines, apples, etc. As regards their food habits, the author states that "instead of the milk and meat of the mountain nomads, fruit in enormous quantities, with bread, rice, and vegetables, formed the diet of the people."

The Chinese in this region follow their usual food customs. "It is amazing to see how high the civilization of the Chinese appears in contrast to that of the natives. At a Chanto meal one sits cross-legged on the mud floor, and all the guests eat from a single dish of rice in the middle of a cloth. To go, as I several times did, from such a repast to a sumptuous Chinese dinner of thirty courses, . . . and to find the meal served on a polished wooden table surrounded by chairs and set with individual bowls and chop-sticks, makes one realize how far Chinese civilization has advanced beyond that of neighboring races. Much more impressive, however, is the deference of the Chantos to the Chinese—a deference which is obvious even when the people speak with bitterness of their rulers. . . . Such an attitude on the part of a subject race is only possible when the rulers possess a high degree of strength of character." It would appear from the author's generalizations that the Chantos who live on fruits, cereals, etc., rather than the generous, mixed diet of the Chantos or the Khirghiz diet, characterized by an abundance of meat and milk, lack their energy and vigor.

On the basis of data presented it would be obviously unfair to attribute such differences solely to differences in diet, but the material presented is of decided interest as a contribution to the subject of the possible influence of racial food habits on race condition and achievements.

IN THE TEACHING FIELD.

Round Table at Washington.

On the morning of New Year's Day, 1909, a Round Table on Domestic Science was held in one of the parlors of the Hotel Gordon; Miss Kinne, as former Chairman of the Teaching Section, presided.

The meeting was well attended and was representative of several sections of the country and several lines of work, though most members of the Conference present were teachers of domestic science. The subject under discussion was Domestic Science in the High School Curriculum, and more particularly in its relation to College Entrance. There were some slight differences of opinion, but on the whole the meeting was agreed in regard to the following points: First, that high school teachers of domestic science should agree on a course for college entrance, which could be put into the college preparatory high school; second, that this course should be intensive, dealing thoroughly with some one subject say, foods—only in this way can the work be made sufficiently weighty from the college point of view; third, that it would be well if possible to have at least one year's work, to be taken by the girl who is to enter college and the one who will not; this would make for economy in the school curriculum and in the teaching force. There was some difference of opinion here, some of the teachers present thinking that this was not possible.

A very pleasant feature of the meeting resulted from a suggestion made by Dean Arnold of Simmons College, that every person present should give her name and tell something of her work. This developed the fact that the gathering was very representative of the domestic science field. Informal discussion followed among the members of the Committee on College Entrance Requirements of the Teaching Section of the Lake Placid Conference, although this committee had been formally discharged. The result of these conferences and later correspondence will be published in the June number in the form of a definite proposition for a course of the kind indicated above.

**Open Questions
in Teaching
Method.**

At the Washington meeting of the American Home Economics Association, it was suggested that teachers of home economics, or household arts, need most at present to discuss methods of teaching rather than courses of study. It is with this thought in view that this column is opened.

The JOURNAL should certainly afford opportunity for discussions through correspondence of many vital matters in regard to method, both theoretic and practical. All interested members of the Association are invited to take part in the discussions, by letter, and to propose new questions for discussion. A few practical questions follow as the opening of this department:

In cookery, one most important question is perhaps that of laboratory management and its relation to cost of maintenance. This connection may not be obvious at first, but through the attempt to lessen the cost of materials to the school, teachers have resorted to group work, where several pupils work together upon one dish, or in individual work, to small quantities. If these quantities are too small, the training is not practical. This is especially true in batter work, for instance. In group work the pupils of course miss the opportunity for individual training. Either of these methods will reduce the cost per capita per lesson, either in the elementary or high school, to two cents. In one of our large cities where the small quantity method is used, the cost per capita is as stated. The same cost per capita is given by the supervisor of another large city system where the group method is largely used. If either of these methods alone can reduce the cost to two cents per capita, surely some wise combination of the two, might have the same result. It is in the batter work, as already noted, that individual work gives the pupil opportunity to develop skill; yet a normal quantity is costly, therefore, here it might be wise to have one or two lessons of the individual type, and others of the group type.

It is necessary, for two reasons, to make expenditures low; in the first place, to make it possible for School Boards to introduce and maintain the work, and in the second place, to teach economy in the use of materials to the pupils.

Work in cookery costs more than in the other branches of domestic science work, and perhaps the supplies are more per capita than any other work in the school; yet while practising

economy, domestic science teachers should contend against an appropriation so limited that the work is actually crippled.

There are several ways in which this burden of maintenance can be lightened to the school. In many of our training schools and colleges a laboratory fee is paid by the students. But it is in the use of some commercial plan that the best solution of this difficult problem may be found. By commercial, is meant some plan which involves the selling of the cooked products, either in a lunch room or to individuals. It is interesting to note that varied forms of this method are already in existence in different parts of this country. In addition to the fact that by selling products the appropriation is increased, there are two strong arguments in favor of this plan; in the first place, it gives the pupil opportunity to work with normal quantities which is certainly most desirable, and in the second, it familiarizes her in a practical way with the cost of food materials and with the market value of her labor.

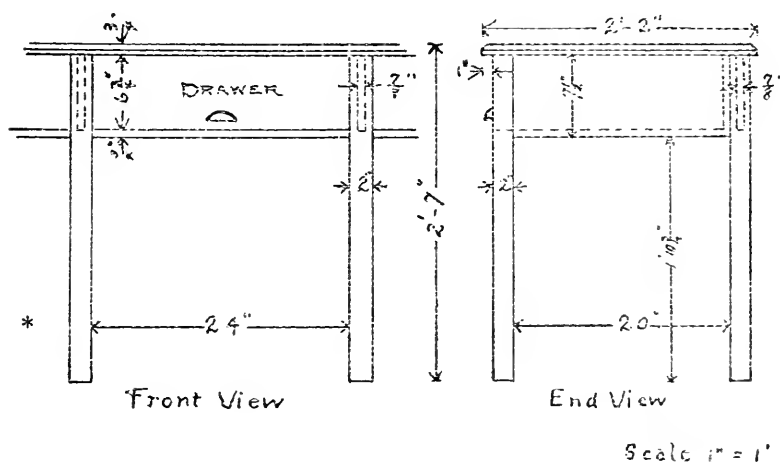
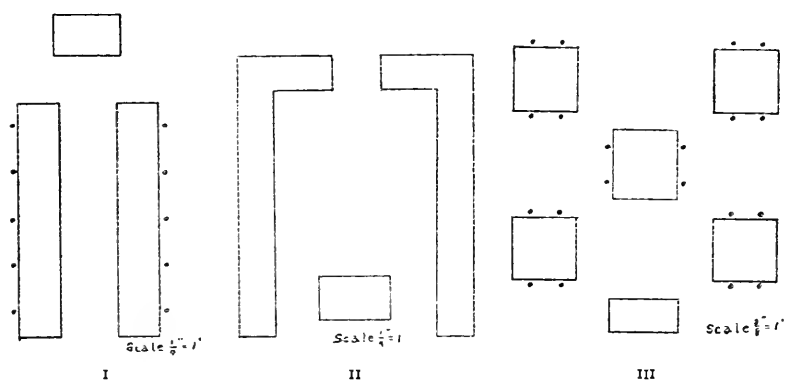
At the School of Practical Arts, Boston, Massachusetts, one cent per capita per lesson only is allowed by the School Board. Miss Annie L. Bennett, the Director of Domestic Science, says that this is not a sufficient amount to allow material for practical training; therefore, Miss Bennett has devised a school lunch scheme by which the dishes prepared in the cookery classes are utilized for the luncheon. The pupils gain much in experience both in preparation and in a knowledge of the cost of food. In this way too, the quantities are sufficiently large to induce the dealers to allow a discount.

At the Hebrew Technical School for Girls, New York City, Miss Anna Hedges, Director, a somewhat similar plan is followed. In this school the senior girls prepare a daily luncheon for the teaching staff, each teacher paying fifteen cents for her luncheon. Cooked food is also sold to friends of the school and to pupils. In these two ways, the actual outlay to the school is reduced to three cents per pupil per month. Here, certainly, are problems for discussion. The following definite questions are propounded:

1. How may individual and group work be wisely combined?
2. What other schemes resembling those in the two schools mentioned are already in operation and with what success?
3. Are there any possible objections to this financial scheme, and what?

The accompanying illustrations were received too late to appear with the discussion of "Adequate Equipment for Domestic Science" in the November *Preliminary Bulletin*. The illustrations are therefore given here and the paragraph on cooking tables having reference to the illustrations is repeated.

"Simple tables can be made by a local carpenter at comparatively small expense. If great economy is necessary, the common wooden kitchen table can be used, either old or new, or stained packing boxes. Wooden horses, with movable boards



*Minimum space for each pupil.

on top, have been tried successfully; such simple arrangements are desirable in introducing the work. If tables are to be built in, as is common in permanent equipment, various floor plans are possible. Two parallel tables (I) are convenient in a rather long and narrow room, and secondly, in a room where serving is to be done as well as cooking. The cooking in such a place can be done at one side of the room, and the serving at the other. A rectangular arrangement (II) is a good one for a large class, since the instructor is able to stand in the center and have supervision of all the tables. The arrangement of tables in a group (III) often economizes space; it makes many more steps for the teacher, however, and makes it more difficult for her to keep in touch with all the tables. The shape and size of the room and the size of the class will usually determine the arrangement of tables, but in general the rectangular form is recommended for elementary and secondary schools. Twenty pupils to a table are considered desirable. A working drawing (IV) of a table unit is presented, 31 inches high, 24 inches wide, and 26 inches deep, with a $6\frac{3}{4}$ inch drawer for utensils. Maple tops and ash frames make a good combination, or cheaper wood below. Oak may be substituted for maple. An estimate in New York for building twenty such units in rectangular form was \$100. Prices will doubtless vary elsewhere."

**University
Dissertations.**

The following original studies in the fields related to home economics appear in doctors' dissertations for the degree of Doctor of Philosophy in the American universities last year. The list in full is printed in *Science*, September 18, 1908.

Yale University—Stanley Rossiter Benedict: "Experimental studies on the Metabolism of Magnesium and Calcium."

George Washington University—Frank Cummings Cook: "Phosphorus Metabolism Experiments."

University of Missouri—Charles Brooks: "The Fruit Spot of Apples; a Morphological and Physiological Study;" Caroline McGill: "The Structure of Smooth Muscle in the Resting and in the Contracted Condition."

Columbia University—Elmer Ellsworth Jones: "A Comparison of Mental States in the Horizontal and Vertical Positions of the Body;" Matthew Steel: "The Influence of Magnesium Sulphate on Nitrogenous Catabolism in Dogs, with Special Reference to the Distribution of Nitrogen among the Constituents of the Urine."

University of Chicago—Clarence Stone Yoakum: "An Experimental Study of Mental Fatigue."

DOMESTIC SCIENCE MEETING AT CLEVELAND.

NORTHEASTERN OHIO TEACHERS' ASSOCIATION.

The Northeastern Ohio Teachers' Association met at Cleveland, February 12-13, 1909. There were three general sessions, and in addition, twenty-five or thirty departmental meetings. Among the latter was the departmental meeting on Domestic Science and Domestic Art, which was held at Central High School. About 30 Domestic Science teachers were present and enjoyed a very interesting meeting. The leader was Miss Carlotta C. Greer, of Cleveland. The program included the following papers: (1) The educational value of domestic science, Miss Rachel H. Colwell, Lake Erie College, Painesville. (2) Teaching chemistry as applied to domestic science, Miss Mary Converse, Technical High School. (3) Bettering of taste in dress and house furnishings through domestic art, Miss Lana Bishop, Technical High School. (4) The influence of domestic science on society, Miss Esther M. Howland, Cleveland. Abstracts of these papers follow:

THE EDUCATIONAL VALUE OF DOMESTIC SCIENCE.

MISS RACHEL H. COLWELL.

Lake Erie College.

From a consideration of the place of Domestic Science in the general scheme of education a broader view may be obtained of its possible significance, and having established the larger claim, the adaptation to special needs will follow the more readily.

Education is a process of evolution. The child should be the unit around whom the education centers, and culture, true culture, the attainment. The practical application of these ideals means a better knowledge of our subject. We are in a new field. We need the scientific attitude of mind and scientific methods. Better teaching would result from clearer thinking. A few fundamental principles established in the mind of the child by a greater variety of examples, is better than a smattering of many. The child should have purpose and understanding, be taught how to do his own thinking. The made dish is not an end in itself. Why not have a clear cut working outline for the various ways of cooking all vegetables which is applicable

to each, with certain modifications which can be shown, instead of a special recipe for each? Having established the common methods of cooking the potato for instance, have the common methods of cooking the sweet potato any fundamental differences which can not be explained by reference to its composition? The very explanation helps to fix the differences in food value, and so on through the roots, bulbs, stems, leaves, flower and seed. Is it not after all a study of relative values of the foods which gives to each food its proper place? May the question be left, do we see and make use of the full educational value of our work?

BETTERING OF TASTE IN DRESS AND HOUSE FURNISHING THROUGH DOMESTIC ART.

LANA BISHOP.

Technical High School, Cleveland.

How to influence for good taste in dress and house furnishing is a great problem. Each girl whether she is to enter the industrial field or become the head of a home, should receive such training as will enable her to meet and solve intelligently the problems which will come to her from time to time, not only from the practical standpoint, but from the economic and artistic side as well.

Good taste in dress is the faculty of being able to select and combine such materials, and to so adjust them to the figure, as to produce a perfect harmony.

Common sense should overrule the aspirant to successful dressing. Fashion often leads us far astray from the path of refined taste, and the prevailing shapes and colors must be modified according to the individual style and personality of the wearer or the results will be unsatisfactory to herself and to the friends whom she wishes to please. We are told that Queen Alexandra of England, is the best dressed woman of today, and why? She has made a study of what is most becoming to her as an individual, and no matter what is fashionable, she chooses that which is adaptable to her particular style. Our best designers of gowns find most inspiring examples of color and designs for costumes, in the world's great picture galleries, where priceless portraits painted by old masters are hung.

Since our comfort and peace of mind depend largely upon our surroundings, the home should be a haven of rest. The old idea

was that a beautiful home must necessarily be expensive and elaborate, but we now agree with the Japanese in his ideas of what is good in household art, and have learned to appreciate true beauty in simple things. In the study of house decoration, as well as in the study of dress, we take into consideration the fitness to purpose, simple line, color combinations and appropriate materials. Each room in the house should receive careful thought making the whole a harmonious color scheme.

How can we, through Domestic Art teaching, help the girls to appreciate this? Begin early with the very young children, working out simple problems, regulating the work according to the age, and gradually cover all the general principles, opening to the girls, step by step, as they grow older, that side of life which rightfully belongs to them. Give them the interesting history of textiles from the prehistoric ages, from the origin of tools to the present system of factories, where thousands of yards of materials are made daily; show them how to sew in all ways from the coarse stitches on canvas to the finest of French embroidery; teach them how to buy by making them familiar with all kinds of fabrics; help them to appreciate good design through their study of color, line and form and their application to materials.

The grace that comes from a mind trained to appreciate real beauty in simple things is what all women should secure. A woman who has secured this is a success both in the home and in society.

A great deal of attention should be given to the girl who is to become one of the great army of industrial workers. According to recent reports, there are 6,000,000 women in the United States who are gainfully employed. We find that in 72 of the 78 cities having 50,000 inhabitants, more than one-third of the girls between 16 and 20 years of age are at work. In 36 of these cities more than one-half are earning their living, and in eight the rate rises as high as 69% and even 77% of the total number of girls. Nearly all occupations are open to them, and many industries which require skilled labor depend upon women for their finest workmanship. Although among this army of young women workers, we find many trained for their various lines, a large majority are in the unskilled class and perhaps have begun as cash girls or errand girls when only fourteen years of age. If a girl is unusually bright, she may rise to a good position, but in

many cases the wage continues low in the scale and the results are sometimes serious. The mind of the young girl is susceptible to all sorts of temptations, her taste is undeveloped and her judgment is crude. Her desire to dress as other people do, leads her to buy beyond what she can afford, or to select inappropriate materials far removed from the artistic lines a person of more mature or trained mind would choose.

Employers are calling for trained workers in dressmaking, millinery and power-machine operating trades, and other skilled occupations for women, but the number ready to respond is small. The apparent need for a place where girls could receive such training led to the establishment of the Boston Trade School for Girls in 1904. Two years previous the Manhattan Trade School in New York was started and it had grown to be very strong in its work—a model well worth copying. In the main the two schools are much the same, but owing to some differences in trade requirements of the two cities, certain lines are emphasized more in one than in the other.

These schools have proven their worth over and over again. It is impossible to estimate its value to the pupil or to the employer. At first employment was sought for the girls, now they cannot be trained fast enough to meet the demand. As the girls go out into the trade, an influence for better physical, moral and economic conditions among the industrial workers is gradually making itself felt, and life to the girls themselves is much happier for their having had a training at the trade school. In such trade schools, there will be opportunities to enforce the standards of good taste.

Our work in Domestic Art must be broad, dealing with all phases of the subject, influencing for better conditions in all places, and teaching the girls how to live in their particular environment.

TEACHING CHEMISTRY IN CONNECTION WITH DOMESTIC SCIENCE.

MARY CONVERSE.

Instructor in Applied Chemistry, Technical High School, Cleveland, Ohio.

In technical high schools there is a tendency to emphasize practical work, which for domestic science means actual cookery; yet as theory and experiments are a necessary foundation, work in science and in chemistry is being added to the curriculum.

"The aim of this course is, primarily, to train the girl to efficiency; secondarily, to make a correlation point for other studies, to force their application in the common affairs of life and to cause the school to function immediately in daily life." Chemistry as applied to the teaching of domestic science is still in a primitive state, but as time goes on the benefit and necessity of it will become more evident. Chemistry as given in the usual high school course applies more to the practical work of the boys than girls. A certain amount of general chemistry is necessary for the girls, particularly that which will be of assistance to them in connection with their work in domestic science, and this can be given as applied chemistry.

For instance, when combustion is being studied in the domestic science laboratory, experiments can be given in the chemical laboratory on the generation of oxygen and nitrogen, showing their effect on a lighted candle and proving the necessity of oxygen in combustion. Kindling point can also be emphasized and this point determined with the use of kerosene or gasoline and the thermometer. The Fahrenheit thermometer is better than the Centigrade for this purpose as it is commonly found in the home. If the Centigrade must be used then the work of transferring the Centigrade scale to Fahrenheit can come in connection with their work in mathematics.

While carbohydrates are being studied in the domestic science laboratory, work along the same line is given in the chemical laboratory, for instance, detection of starch in vegetables, effect of soaking in water for a time, composition of cereals determined, and experiments on sugar. While studying the different foods, their preparation for market, cost, digestion, etc., is taken up.

With fats it is possible to include testing for adulterations and determining the best for use in deep fat frying. Proteins are taken up with a study of eggs; and of milk with testing for composition, quality and adulterations. Determination of fat by the Babcock method and action of rennet on milk are given. Meat is studied with regard to the effects of heat and cold, hot and cold salted water and the extraction of food principles for soup making, etc. Gelatine, legumes, food adjuncts, etc., also have their place in the work. Tests on flours, breads, baking powders and other materials are made for adulterations as well as to find their composition. Tests with antiseptics, preservatives

and the action of alkalies and vegetable acids on metals are included.

This is a very brief statement of the course in applied chemistry now being given in the technical high school in Cleveland. Not only does the application of applied sciences vivify the work of domestic science, but the student gains new appreciation of the value of these subjects.

THE INFLUENCE OF DOMESTIC SCIENCE ON SOCIETY.

ESTHER M. HOWLAND.

Domestic science as a social factor may, I think, be considered to be effective in three ways: First in the development of general social efficiency; second, in the contribution to the social life of the school; and third in its direct effect upon the home. The special value of domestic science, and we should include in this the study of food, clothing and shelter, depends upon the fact that it deals with the environment and touches the whole round of human life.

Recent examinations of school children in various cities of England and America has revealed a state of physical ill being most deplorable. Nutrition, the first point of inquiry, is indicative of all other functions of the body. Many a child is punished for laziness and irritability, who really ought merely to be nourished into energy and good temper. These results show that food, which is absolutely essential to life, is also an important factor in right living.

The socializing movement is well under way but there is a lack of correlation between the school and the needs of industrial and social condition in some towns. There is, for example, too little education for the factory girls who are in sore need of it both for their own good and for the good of the community.

Housekeeping in the widest sense, the provision of domestic comfort within the home, is the largest single industry known. Yet it is an accepted fact that being born a woman is not being born a housekeeper, and she needs the wisest training we can give to fit her for the most responsible position she can ever hold, that of wife and mother.

In conclusion I would like to tell about the home science work that has been so successfully carried on among the working men's wives in Waterbury, Connecticut, by one of the instructors of

the Waterbury Institute of Craft and Industry. Each class is limited to twelve members and is composed of the women in the neighborhood. These classes are held in their own home kitchens and they are allowed to bring their infants and small children and thus are able to care for them during the class session. A two-hour lesson is held once a week and a charge of five cents is made and out of this the supplies are purchased for the lessons. The object of these lessons is to teach these married women how to make their homes more attractive and homelike and the proper way of living. The course includes: The care of the home, the care and feeding of children, home nursing and how to buy and prepare food by simple, healthful and economic methods. In most of the classes the members have been most enthusiastic and they have appreciated what they have learned. One husband is reported to have said "It's a pleasure to come home now, knowing we will have a good hot meal."

These women have also been benefited by the social side of these lessons. More than one has said, "This is the only time I go from home during the week." One woman said, "I can't tell you what this class has done for me. Besides all I have learned about cooking, I've made the acquaintance of these women in the church and through them have joined the Ladies' Aid Society and have taken a class in Sunday school. Indirectly, it has brightened my whole life."

We are able to see some of the results of such teaching, but I am sure we cannot know all of it, for each woman is the homemaker of a family.

The American Anti-Accident Association, with headquarters at Sharpsville, Pennsylvania, is an organization which is carrying on educational work aimed at the prevention of accidents. The Association has adopted a policy which calls for educational measures looking to the development of an informed public opinion. This policy includes twenty-four fundamental features, among them the following: "Advocacy of consistent hygienic or sanitary science in our nation's educational, commercial and industrial institutions," "Adoption of a sane and safe Fourth of July throughout the country," "Vigorous efforts to help reduce the present appalling number of fires in our forests, dwellings, commercial and industrial communities," "Advocacy of an economical State or National insurance system that will tender an assured and immediate compensation to injured employees and others hurt by accidents, and which will also be helpful in preventing accidents."

CONSTITUTION OF HOME ECONOMICS ASSOCIATION OF GREATER NEW YORK.

The Constitution of the Home Economics Association of Greater New York is printed for the suggestions it may give to other local societies which may be formed.

In view of the fact that a large number of workers in Home Economics, in New York are without organization, we, the undersigned, hereby associate ourselves as follows:

I

NAME.

1. THE HOME ECONOMICS ASSOCIATION OF GREATER NEW YORK, (in affiliation with the AMERICAN HOME ECONOMICS ASSOCIATION).

II

PURPOSE.

1. To bring about closer co-operation among teachers and workers in Domestic Science, Domestic Art and allied fields, in order that more effective work may be done in improving the conditions and raising the standards of living.

2. Specifically the Association aims: (a) To hold conferences of its members and others interested. (b) To develop and strengthen the work of the schools in all matters affecting health and efficiency in the family and individual. (c) To demonstrate the vital interdependence of private and municipal housekeeping. (d) To educate public opinion by circulating literature, by meetings, by publications in the public press and elsewhere and to make advancement secure by municipal and legislative regulations.

III

MEMBERSHIP.

1. All interested persons who pay the annual fee.

IV

OFFICERS.

1. The Officers shall consist of a President, Vice-Presidents, a Secretary-Treasurer and an Executive Committee.

2. The executive committee shall be composed of the President, First Vice-President, Secretary-Treasurer and four additional members elected at the annual meeting.

3. All officers shall be elected for one year at the annual meeting, and shall have the duties usually pertaining to such officers.

V

AMENDMENT.

This constitution may be amended at any meeting by a two-thirds vote, notice of the proposed change having been given ten (10) days in advance or by announcement of the fact at any regular meeting.

B Y-L A W S .

ARTICLE I.

MEMBERSHIP.

There shall be three classes of membership:

1. Active, open to all interested who are approved by the Executive Committee and who pay the fees.

2. Associate membership, open to those who desire to affiliate with the work of the Association without taking an active part in it, and who pay the fees. This membership will be open to individuals and to clubs, societies, institutions, public officials and others.

3. Life membership may be secured by the payment of \$25.00, approved by the Executive Committee.

Membership shall cease only upon written notice to the Secretary.

ARTICLE II.

MEETINGS.

The Annual Meeting shall be held on the second Saturday in January and shall be followed by the Annual Luncheon. The roll of membership shall be called at the Annual Meeting. Other meetings shall be held as the Executive Committee may appoint, or they may be called over the names of any fifteen members.

ARTICLE III.

FEE.

The Annual Fee shall be fifty cents (\$.50) for active and associate members, but an extra assessment may be levied on active members, by vote of any meeting, to meet delegates expenses or other extraordinary expenditures, provided due notice is given in the call for the meeting and provided that the total amount of dues and assessments shall not exceed one dollar (\$1.00) per year. The Fee shall be payable in advance at the Annual Meeting.

ARTICLE IV.

STANDING COMMITTEES.

The Standing Committees shall comprise the following:

1. Membership committee which shall endeavor to increase the membership.

2. Program Committee which shall plan the year's work including lectures and addresses and discussions on theses which concern the field of work of the Association.

3. Publicity and Literature Committee which shall furnish information to the public press and shall distribute literature.

Each of the Executive Committee shall be assigned to the Chairmanship of a suitable Standing Committee, by the President, and additional chairmen, as necessary, shall be appointed by the President. The Chairmen of the Committees shall then select the members of their committees.

Additional committees shall be elected or appointed, from time to time, as the Association shall direct.

ARTICLE V.

ELECTION OF OFFICERS.

There shall be a Committee on Nominations of five members, elected at the Annual Meeting, to serve for a term of one year. This Committee shall receive suggestions of nominations up to two weeks before the Annual Meeting. It shall then prepare a list of not less than three nominations for each office, which shall be submitted by mail, to all members, one week in advance of the Annual Meeting. Election shall be by a majority of active members voting at the Annual Meeting. The voting shall be by ballot.

After the first meeting, the four members of the Executive Committee shall by their own vote, determine which one shall serve four years; which one three years; which one, two years; which one, one year. After the first year, one member of the Executive Committee shall be elected each year, for a term of four years.

ARTICLE VI.

RELATION OF THIS ASSOCIATION TO THE AMERICAN HOME ECONOMICS ASSOCIATION.

This Association shall co-operate with the American Home Economics Association in such ways as shall be defined by vote of the former. In accordance with the present Constitution of the American Home Economics Association, the Association of Greater New York will each year, at the Annual Meeting, elect for a term of one year, one or more Representative Councilors (according to the representation granted by the American Home Economics Association) who will represent this Association on the Council of the American Home Economics Association. The Secretary shall issue a statement of authority to act as such a Representative. It shall be the duty of the Representative Councilor to furnish the *JOURNAL OF HOME ECONOMICS* with programs of the meetings of the Association and copies of all papers delivered which seem suitable for publication, to attend meetings of the American Council, and in other ways aid as medium of communication between the two Associations.

ARTICLE VII.

QUORUM.

A Quorum shall consist of twenty-one active members.

ARTICLE VIII.

AMENDMENT.

The By-laws may be amended at any meeting regularly called by two-thirds vote of those present and voting, provided due notice is given in the call.

**Domestic Arts
in Missouri.**

The philosopher of the *New York Evening Sun* writes this about home economics in the issue of January 4th, under the editorial caption, "The Domestic Arts in

Missouri:"

"They had a meeting of the Missouri State Teachers' Association at Kansas City a few days ago, and upon the peace of their intellectual deliberations descended a terrible cave-man with a knotty club, in the form of Mr. Louis Theilman, a Superintendent of Schools in St. François county, shouting for less l'arnin' and better cooks, in the untutored phrase of his constituents in the pleasant town of Bonne Terre.

"Once there was a proverb which said the way to reach a man's heart was through his stomach. That opinion appears to have changed Nowadays the proper way to reach a man's heart is supposed to be through a knowledge of the dead languages and 'Plutarch's Lives.' In many families it's regarded as a sign of inferiority for the girl of the home to know how to do things about the house—wash dishes, sew and cook.

"The domestic arts are being shunned as degrading. It's all due to the fact that there is not enough public education along these lines.

"If the practice of law had to be taught at home instead of at expensive colleges it would rank lower than cooking does right now."

"The real question is too deep and wide to take up here—whether the domestic arts have been really and forever displaced from the fireside, and should henceforward be taught in schools during the stated hours of study, or whether the masters of these arts should still have their chairs under the roof of the family home. Miles of paper, barrels of ink, a hundred sanatoriums full of cases of nervous prostration, a thousand dislocated jaw-bones—such are part of the inevitable price we must pay for settling this mighty question, if, indeed, it ever shall be settled. But Mr. Theilman voiced the average cave-man's sentiments—the average cave-man who is a merchant or a mechanic or a professional man or a "railroader" or a manufacturer or a clerk—which include a longing for a habit of mutual friendliness and common interest in the family circle, a preference for a little good meat with the salt of peace, over a table overspread from designs in a fashion paper and laden with good food spoiled in the cooking, a blind yearning toward a simplified and better balanced life. And so brutish are the instincts of the cave-man that he will even forego talking eternally about such an ideal state if only he can sometimes, even fitfully and with generous regard for the nobler intellectual arts, actually get his home comfort once in a while in whatever way his wife will give it to him."

BOOKS AND LITERATURE.

The Home Economics Movement, Isabel Bevier and Susannah Usher. Whitcomb and Barrows, publishers, Boston, 1906. Pp. 67. Price, \$.75.

"If history be regarded just as the record of the past, it is hard to see any grounds for claiming that it should play any large role in the curriculum of elementary education," says Dr. John Dewey in *The Progressive Journal of Education*. Although he is speaking of the teaching of children and "The Home Economics Movement" is written for those of larger growth, he indicates quite exactly that which gives to the book its special value. He says further: "The past is the past and the dead may safely be left to bury its dead. There are too many urgent demands in the present, too many calls over the threshold of the future, to permit the child to become completely immersed in what is forever gone by. * * * Whatever history may be for the scientific historian, for the educator it must be an indirect sociology—a study of society which lays bare its process of becoming and its modes of organization." "The Home Economics Movement" is not "a mere record of the past" though it gives the history of the establishment of many institutions and courses which have played their part on the educational stage and have disappeared; it is instead, "indirect sociology," the story of how women of needs and problems very like our own, have been working out their educational salvation. It "lays bare the process of becoming" in the Home Economics Movement in such a way as to be helpful to those who are listening to the "calls over the threshold of the future." In the introduction there is an interesting account of woman's education in this country. The chapters which follow relate to "Home Economics in Agricultural Colleges and State Universities," "Cooking Schools" and "Home Economics in the Public Schools."—Caroline L. Hunt.

One Woman's Work for Farm Women. Jennie Buell. Pp. 78. Whitcomb & Barrows, Boston. Price 50 cents.

This is the story of the part taken by one woman in rural social movements. Mrs. Mary A. Mayo was known as "Mother Mayo" by hundreds of men and women in Michigan at a time when rural life offered many vicissitudes. She was educated in the public schools of Michigan and at the time of the great struggle for existence after the Civil War she began her married life in a little log house where the young people had everything to earn for themselves. She took part in the out-of-door life, and when it was necessary gave a "lift" at the barn, in the field, with the poultry or in the garden. In addition to her own household cares she became an advisor and helper among her neighbors. In all the difficulties of pioneer life Mr. and Mrs. Mayo laid aside each year something for travel and culture. The old school books were brought out and studied and with the first organization of the grange in that section Mr. and Mrs. Mayo became active leaders. Young people were gathered together in the neighborhood for a reading club. Later with the beginning of the Chautauqua

literary and scientific circle she began with her husband and neighbors the courses as laid out by the Chautauqua Institution. Everywhere she tried to arouse her neighbors from social, mental and moral inactivity. As her family cares lightened she came to the direct assistance of the supervisor of farmers' institutes, Mr. Kenyon L. Butterfield. Mrs. Mayo was employed to give addresses before institutes and from 1896 to 1900 she presided at the women's section of the state institute. Her long continued work in the grange both with the women and children had prepared the field and had given a skill in reaching her audiences which made her of unusual value in extension work. The story of Mrs. Mayo's life is an inspiration to everyone who would rouse the finer sensibilities of those born and bred in country homes. Her life and work offer an illuminating history of the re-making of the farm home life and of quickened mental development.—Martha VanRensselaer.

Diets in Tuberculosis, Principles and Economics, by Noel D. Bardswell, M.D. and John E. Chapman, M.R.C.S. Oxford University Press, New York City. 1908. Pp. 183. Price \$2.50, postpaid.

This is a report of work extending over seven years of investigation, chiefly in England. In this book the authors show that the knowledge of the diet to be used in tuberculosis, has kept pace in the last few years with the changed methods of the treatment of the disease.

The authors state clearly the principles upon which a dietary for the person afflicted with tuberculosis should be constructed. They recommend that the physiological diet (*viz.*, the diet which contains the exact amount of carbon and nitrogen necessary to balance the amounts of these substances excreted for the individual in normal health and at rest) should first be ascertained, and that this should form the basis of the diet for the treatment. The amount of protein should then be increased 30% and the total value should be increased 30%. This represents a standard diet for the average consumptive man of 150 g. protein, 150 g. fat, 250 g. carbohydrates and about 3,000 calories. General directions for the arrangement of the dietary follow, and the nutritive and economic value of each food material receives consideration.

An interesting portion of the book is the discussion of the advantages and disadvantages of a meat free diet, which is concluded with a summary of the results of using each in sanatoriums. They recommend the use of the mixed diet with the use of a moderate amount of meat. "In the case of individuals with normal appetite and digestion, the meat of an ordinary mixed diet can be altogether replaced by pulses, but such an entirely meat free diet is, on several grounds, not entirely satisfactory, and should not be used unless very strict economy is essential."

The cost of the dietaries is taken up and definite suggestions in regard to a dietary for the poor are given, as well as recommendations for the dietary of the well-to-do. This should be a boon to settlement workers who have complained that the prescription of "milk and eggs" has usually been given with almost disregard to the fact that the patient cannot afford so expensive a diet. A table at the end of the book shows the composition of

four diets of different costs suitable for the treatment of the consumptive. The nutritive value of these closely accords with the standard recommended, ranging in total caloric value from 3400 to 3700, and the protein about 150 g. The table in part is as follows:

No. g. protein for one cent.	Total caloric value.	Cost per day (about).
6.6	3722	.23
7.7	3545	.20
8.6	3452	.18
9.7	3375	.15

Fully as valuable as their recommendations for the diet in tuberculosis is their discussion of economic dietaries. It is interesting to note that their investigations *led to* the observations in the economic dietaries. Such a knowledge of the economic value of foods is of advantage to the person in health as well as the person afflicted with tuberculosis. The careful manner in which this has been considered can best be stated by quoting the conclusion of the chapter discussing the economics of diets. "We are of the opinion that in a diet of the working classes, the amount spent upon animal food should not exceed 70% of the total expenditure. Our dietetic work at the Munsley Cottage Sanatorium showed us that to construct a really cheap and efficient dietary, it is necessary to make a reasonable use of vegetables as a source of protein."

The work detailed in the book has a wide application. It will be found of use to the patient as well as to the physician and to the householder as well as to the dietitian.—Ellen A. Huntington.

A Manual of Personal Hygiene: Proper Living upon a Physiological Basis. By American Authors, edited by Walter M. Pyle, A.M., M.D., Member of the American Ophthalmological Society; Fellow of the American Academy of Medicine, etc. Third edition revised and enlarged. Philadelphia and London. W. B. Saunders Company, 1907, 430 p. \$1.50.

The first edition of Pyle's *Personal Hygiene* appeared in 1901, and since that date this book has been one of the particularly useful authorities upon this subject. This third edition contains some revision of the former text, additional chapters on home gymnastics and domestic science; an appendix describing the simpler methods of Hydrotherapy, Thermo-therapy and Mechano-therapy; and a section giving first aid treatment of emergencies. This compendium, written by various authors, contains much useful information, but, as is apt to be the case with material grouped from different sources, the work lacks the unity, and continuity which are very desirable in the treatment of such a subject as hygiene.

The editor of the work, perhaps naturally, gives the most elaborate treatment to the hygiene of vision. This chapter, as well as some other chapters in the book, reflects the tendency of the specialist to magnify the importance of his own subject and to present his views in a way more technical and involved than is desirable for even a well educated lay reader. With the emphasis which is given to the hygiene of vision it is surprising and apparently quite inconsistent that the paper used in the

book should be a calendered paper, difficult to look at, particularly by artificial light.

Some of the chapters contain more anatomy and physiology than seems to be necessary for the real hygienic advice which is given. Some of the students of this subject of hygiene are rapidly becoming convinced that the effective presentation of hygienic instruction is not so much dependent upon the teaching or understanding of human anatomy and physiology as was formerly considered essential. The book in places becomes too technical and certain interesting aspects of hygiene are given scant, if any, attention. In the discussion of healthful exercises too much emphasis seems to be given to formal gymnastic movements and inadequate direction and advice is furnished regarding the various forms of games and outdoor activities which are suitable to individuals of different age and conditions of life.

After all has been said with reference to apparent defects, one may heartily commend the book as one containing many sound precepts and helpful suggestions for the hygienic life of the individual.—Thomas D. Wood.

Tuberculosis and Its Prevention, issued by the Massachusetts Board of Education, Boston.

This is a pamphlet of twenty-three pages giving practical suggestions to teachers regarding instruction as to tuberculosis and its prevention, and covers in outline form, the following topics: What tuberculosis is; history of tuberculosis; what tuberculosis does; how tuberculosis is spread; tuberculosis is preventable; how cured; early signs and symptoms of consumption; the campaign against consumption in Massachusetts; reference to standard works on the subject.

Medical Inspection, issued by the Massachusetts Board of Education, Boston.

This is another pamphlet giving suggestions to teachers and others in education positions regarding medical inspection which, in some thirty pages, gives the sort of information a teacher should have regarding diseases and their symptoms; care of the teeth; nervous troubles and some statements regarding school hygiene and proper school furniture. Wider circulation of booklets of this sort would have great usefulness. Departments of Education in other States and in the larger cities might well reprint these Massachusetts pamphlets. Women's clubs and local home economics associations may find it desirable to issue such pamphlets for local circulation. They should also consider the pamphlet publications of the Public Health League of Boston.

Bacteria in Relation to Country Life. Lipman. Macmillan, New York, 1908. 486 pages. Price \$1.50.

This latest addition to the Rural Science Series, edited by Professor L. H. Bailey, is a very readable account of bacteria in their relation to everyday life and in particular to life and business in agricultural regions.

Part I is a general biological account of the structure and physiology of bacteria, giving the facts necessary to understanding the life and influence of these organisms. Part II deals with the bacteria of air and water, especially emphasizing the relation of water supply to health and giving much information concerning contamination, purification and examination of water. The next Part devotes three chapters to bacteria and sewage, and is especially interesting in its discussion of sewage-disposal. Parts IV and V discuss the bacteria in relation to soil fertility and the use of manures. Part VI and VII are concerned with bacteria in relation to milk, its products and other foods. Aside from the remarks in the general discussions, diseases with which most people associate bacteria, are left unmentioned. A startling exception on page 461 is the prominent head line reading "Diseases of Swine," but the chapter simply deals with fermented liquors.

The book is not as well adapted to beginners as are certain other books, notably those by Conn. A reader familiar with some of the earlier volumes of the Rural Science Series will miss the concrete application which has made many of the volumes attractive and practical. Principles and theories of bacterial life and action are well presented, but the concrete application to everyday country life needs further development. One illustration will make the reviewer's meaning clear: The chapters on sewage disposal are valuable for the sanitarian in charge of city sewage plants, but few people without access to other books would catch from the thirty pages on bacteria in sewage the important idea that bacterial purification is easily within the reach of the farmer. However, while the chapters on sewage are essentially most interesting to the city sanitarian, those on soil are much more practical as viewed from the country standpoint.

Many parts of the book will be useful for reference in connection with domestic science; but as a text-book it is not the best adapted to such courses, for the reason that there is too little direct application to the practical problems of home economics, and also because in many practical problems of home economics the yeasts and molds must be considered along with the bacteria, in fact are frequently more important. The book seems best adapted to colleges of agriculture and to readers who are already somewhat familiar with the principles of bacteriology and general chemistry.—Maurice A. Bigelow, Teachers College, Columbia University.

Vitality, Fasting and Nutrition, by Hereward Carrington. Introduction by A. Rabagliati. Rebman Co., New York. Pp. 648. Price \$5.

This volume, together with Dr. Rabagliati's *Air, Food and Exercise*, raises important questions for the student of dietetics. It is very good for the seeker after truth to find other paths than those well trodden. It keeps alive the scientific spirit which holds a balance of serenity in the midst of opposing theories.

Fasting, as a curative and also a preventive measure, was strongly advocated by Dr. E. H. Dewey, and Dr. Robert Walter joined him in refusing to believe that food was the source of human energy. The

author says: "Now the stand I shall take is that food has but one function in the human economy, the replacement of tissue, and that it supplies no heat and no energy whatever; that vital force is in no wise inter-related, or transmutable, into any other forces whatever." His belief is that the body is like an electric motor, charged from without through the brain and nervous system, and in six hundred pages he gives examples to confirm his opinion.—E. H. R.

Food and Nutrition Laboratory Manual. Department of Household Science, Univ. of Illinois. By Isabel Bevier, Ph.M., and Susannah Usher. S.B. pp. 75. Revised Edition, 1908. Whitcomb & Barrows, Boston. Price 100.

This book contains an excellent collection of well-tried experiments on food of interest to the students of Home Economics. The aim, as stated in the introduction has been well carried out: "In the preparation of this laboratory guide the intention has not been to devise new and original experiments, but rather to select from the large body of experiments now offered in physiological chemistry those which in themselves, or in their applications, have a more or less direct bearing upon the principles governing the selection and preparation of food," The order—proteins, fats, carbohydrates, milk, meat, wheat, flour, bread, and digestion—may not appeal to all as best, but in using the book it is quite possible to modify the order. The use of the book as a text presupposes a knowledge of organic and analytical chemistry as well as a general knowledge of foods, but many experiments can be taken from the book and used by students with less training. It is especially valuable, perhaps, for ready reference.—Edna D. Day.

Art and Economy in Home Decoration, by Mabel Tuke Priestman. pp. 222. John Lane Company, New York. Price \$1.50; Postpaid, \$1.65.

This is a useful handbook and will appeal equally to those about to furnish a house, and to that larger class who are desirous of securing the best and most artistic effect with present possessions in the way of furniture. Miss Priestman has had considerable experience as an interior decorator and her book contains much helpful advice on "Color Schemes," "Treatment of Walls," and the "Choice and Arrangement of Furniture"; also on "What to Avoid" in the selection of rugs, portieres, bric-a-brac, and all the things that together go to the making of the "House Beautiful." The chapters on "Floor Staining," "Stencilling and Block Printing," and on "Homemade Rugs," are full of practical hints, and many readers will appreciate the chapter on "A Craftsman's Needlework." The book contains some good illustrations, together with suggestions on "How to Furnish a Cottage by the Sea, or a Suburban Home," and an interesting description of a house furnished and decorated by the united efforts of a talented family of craftsmen and women.—N. H.

A Sewing Course. By Mary Schenck Woolman, B.S., Professor of Domestic Art in Teachers College, Columbia University, and Director of the Manhattan Trade School for Girls; 136 pages octavo, illustrated, price \$1.50 net; interleaved, \$3.50 net. Published by Frederick A. Fernald, 217 West Utica Street, Buffalo, N. Y.

The fourth edition of this book, which has long had a field or great usefulness, was issued in the fall of 1908. It is primarily of interest to teachers and to be used by them in training-schools where time does not permit the making of many applications of stitches. The writer makes it plain that, under no circumstances, should the subject be presented to children in this manner. The new edition contains many additional features, especially in relation to the teaching of the subject, and this makes it of great value to the teacher of sewing who aims to have her work broader than the old-time method of individual attention to the little child spending hours trying to produce fine stitches on uninteresting scraps of cloth or samplers.—Anna M. Cooley.

The Structure of the Wool Fiber and Its Relation to the Use of Wool for Technical Purposes, by F. H. Bowman, D.Sc., Member of the Society of Chemical Industry, etc., published by the Macmillan Company, New York. Price \$2.50.

This exhaustive study of the wool fiber is an excellent book of reference for the textile teacher. Like the author's work on cotton, it deals only with the raw material. The most interesting chapters are: The Mechanical Structure and Composition of Wool; Action of Reagents on Wool; Methods of Analysis and Detection of Various Fibers. The illustrations, many of them colored, are very clear. The book is the most complete work published in England on the subject.—Nellie Crooks.

"The Heritage of Dress" by W. M. Webb. Being notes on the History and Evolution of Clothes with Eleven Plates and 169 Figures in the Text. Published by E. Grant Richards, London, 1907.

The Origin of Dress, Development of the Modern Coat, Buttons as Chronicles, Collars and Bands, are a few of the interesting headings which are treated in the various chapters. It is a most comprehensive work and is more than a book of reference for quaint customs and traditions.—Aletta V. W. Schenck.

The Domestic Art Review. Teachers College, Columbia University, New York City.

This is a quarterly magazine published by students in the Domestic Art Department of Teachers College. The first number, which appeared in November, 1908, contains an article on *Domestic Art in the Elementary School* by Anna M. Cooley, B.S., Instructor in Teachers College, Columbia University, which after discussing the theory of teaching Domestic Art in the elementary school, presents an outline of such work through the eight grades.

The Laundry. Sanitation Series. The Cornell Reading Course for Farmers' Wives, Flora Rose. pp. 80. New York State College of Agriculture, Ithaca, N. Y. 1909.

This pamphlet prepared for free distribution presents a discussion of Fabrics, and Methods, and descriptions of Laundry Machinery in a clear, comprehensive manner. The book contains illustrations of cotton and linen fibres, types of laundry irons, and shows two pictures, one of the

rural soap-maker, and the other, the modern laundry equipment. The latter picture shows hand machinery of a simple, mechanical type, easily understood by the housewife. The arrangement of material is well planned, starting with explanations of the fabrics, the reason for certain methods of washing and the good and bad results from different chemicals in connection with the washing of these fabrics. Then follows a more detailed account of soaps, water, starch, bluing, as well as several solvents and reagents. The chapter on stains does not give any new knowledge, except, perhaps, to people who have made no study of laundry methods. The classification of the stains has been made according to solvents instead of according to the stains which would prove a more useful arrangement were one in a hurry, or looking, perhaps with hands wet from the wash tub. Few housekeepers know enough of solvents to find the remedy for the stain by looking for the solvent of such a stain.

Taken as a whole, the pamphlet is an easy, simple explanation of methods, apparatus and agents, and will be of great assistance to any housewife.—L. Ray Balderston.

Reports of the President's Homes Commission, Message from the President of the United States transmitting reports, etc. * * * 60th Congress, 2d Session, Senate Document No. 644, Washington, D.C., 1909. Pp. 381.

This Report is the result of a Commission appointed by President Roosevelt, of which Gen. George M. Sternberg was Chairman, to consider the improvement of living conditions in the District of Columbia. It comprises (besides the general report and recommendations of the Commission) the findings of two of its committees; the committee on Improvement of Existing Houses and Elimination of Alley Houses, of which William H. Baldwin was Chairman; and the Committee on Social Betterment, of which Dr. George M. Kober was Chairman. The work of these two committees, and especially the second, has brought together a wealth of reliable data, which ought to be spread broadcast through the country. The report of Dr. Kober's Committee on Social Betterment (pp. 27-38) makes up the bulk of the report and is comprised in three parts: Industrial Hygiene (pp. 29-107) Social Betterment (pp. 109-322) and the Appendices.

In the section on Industrial Hygiene, there is a thorough consideration of the relation of daily occupation to health. Successive chapters treat of the occupations which incur special risk, including those in which the workers are exposed to irritating dust, infective matter in dust, poisonous dust, irritating or poisonous gases, organic gases, exposure to extremes of heat, constrained attitudes, over-exercise and exposure to machinery. Other chapters treat of the employment of women and children, special measures for the prevention of tuberculosis, measures for the protection of wage earners, including the responsibility of the Government, the employer, the general public and the employee himself. The division of the Report devoted to Social Betterment, includes the following chapters: Chap. I.—How to keep well and capacitated for work; Chap. II.—Ali-

mentation and foods; Chap. III.—The causes and prevention of infectious diseases; Chap. IV.—Infantile mortality; Chap. V.—The prevention of permanent disabilities in children; Chap. VI.—The health of the city of Washington; Chap. VII.—Sexual hygiene and prophylaxis; Chap. VIII.—The tobacco habit; Chap. IX.—The alcohol question; Chap. X.—The drug habit; Chap. XI.—Sociological study of 1,251 families; Chap. XII.—The business relations of wage-earners; Chap. XIII.—The scale of wages and the cost of living; Chap. XVI.—Suppression of usury; Chap. XV.—How to benefit the poor in the slums.

This Report has been called by some one "For the topics it covers, the best textbook in the field for home economics teaching." Certainly it gives in compact form, what one would search many books for, besides presenting much new material. Teachers of home economics, and other persons thoughtful for home betterment, should write to their United States Senators for this Report.—B. R. A.

Report of the Country Life Commission, U. S. Senate Document No. 705, 60th Congress, Second Session, 65 pp.

Pres. Roosevelt's special message to Congress and this Report have been amply reviewed in the newspapers and magazines. Under the heading *Need of a Redirected Education* the following is significant: "The subject of paramount importance in our correspondence and in the hearings is education. In every part of the United States there seems to be one mind, on the part of those capable of judging, on the necessity of redirecting the rural schools. There is no such unanimity on any other subject. It is remarkable with what similarity of phrase the subject has been discussed in all parts of the country before the commission. Everywhere there is a demand that education have relation to living, that the schools should express the daily life, and that in the rural districts they should educate by means of agriculture and country life subjects. It is recognized that all difficulties resolve themselves in the end into a question of education." * * * "The real needs of the people are not alone the arts by which they make a living, but the whole range of their customary activities. As the home is the center of our civilization, so the home subjects should be the center of every school."

Under the heading *Woman's Work on the Farm*; "There is the most imperative need that domestic, household, and health questions be taught in all schools. The home may well be made the center of rural school teaching." Well said! The whole report will repay careful reading. It may be obtained of your Senator if the supply is not exhausted.—M. LeBosquet.

MEMBERS OF THE AMERICAN HOME ECONOMICS ASSOCIATION.

SUPPLEMENTARY LIST.

The following list of names contains the names of about one hundred persons whose names should have appeared as original members in the February Journal. A package of cards containing their names was lost in the mail and this accounts for the omission. The list also includes persons who have joined the Association since the February number of the Journal appeared. It seems right to consider all of these persons as original members of the American Home Economics Association.

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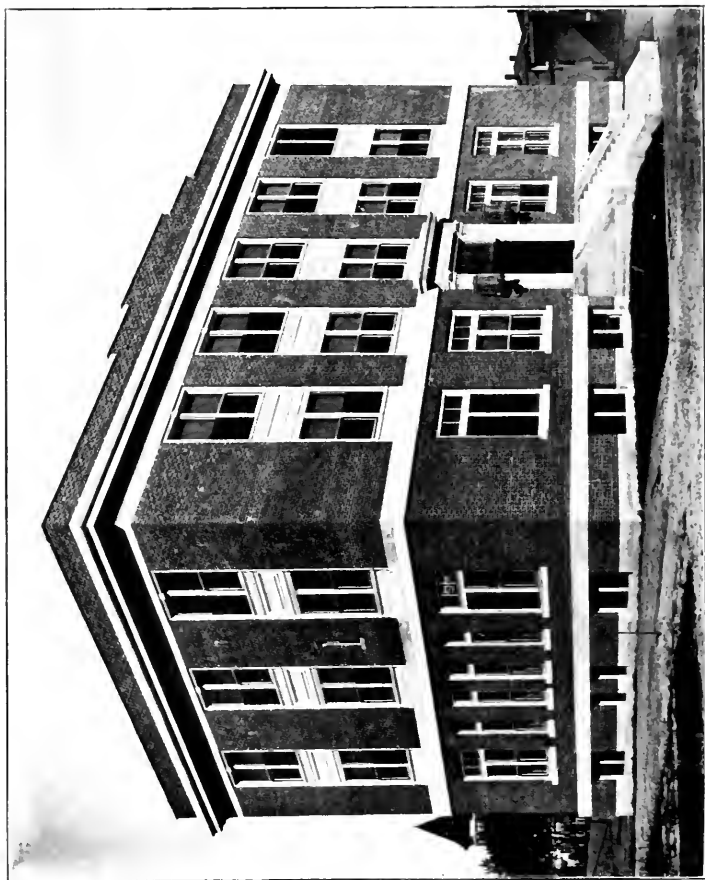
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THE CARNEGIE NUTRITION LABORATORY AT BOSTON, MASS. [See p. 256]

THE Journal *of* Home Economics

VOL. I.

JUNE, 1909

No. 3

WOMAN'S PUBLIC WORK FOR THE HOME AN ETHICAL SUBSTITUTE FOR COOPERATIVE HOUSEKEEPING.

CAROLINE HUNT.

If the history of household industrialism had been written we should find in its later chapters a record of repeated experiments in cooperation. These experiments have never been successful; one after another they have gone down to disaster. The term "Cooperative Housekeeping" is in fact so associated with the idea of failure that it has been abandoned even by those who are still in sympathy with the movement and who still hope for the final realization of its ideals. In the meantime, the immediate and practical purpose of these experiments and the only purpose which the public in general has understood and appreciated, that of lessening the amount of work necessary for housekeeping, has been accomplished by other means. These means may be described as the delegation of household activities to specialists as distinguished from the "pooling" of household tasks which was the dream of the advocates of cooperative housekeeping.

In looking back over a residence of 35 years in a small western city, it is clearly seen that during that time the housekeepers have passed many of their industries over to municipal boards and to private business corporations and firms. To the former, they have given the work of drawing water and of disposing of sewage, garbage and other forms of household waste. To the latter they have entrusted the tasks of heating and lighting their houses and supplying them with fuel for cooking. Public laundries have been established and the variety of cooked foods and ready-made clothes on the market has greatly increased. Other progressive towns have moved in the same direction and the work necessary for housekeeping has in all parts of the country been greatly reduced.

It would, however, be unfair to the more intelligent and public-spirited advocates of cooperative housekeeping to say that the benefits which have come by this process of delegation of household labor to specialists are a substitute for those which they hoped to secure by the "pooling" process. This is true whether we consider the immediate practical reforms which they sought or the more indirect moral and spiritual benefits which they anticipated. Economy of energy was with them merely a stepping stone by means of which they hoped to reach better methods and higher standards in housework. Nor was the equitable distribution of benefits, which is the fundamental principle of all forms of cooperation, an end in itself. In the effort to secure such distribution they hoped to develop in themselves some of the best and most desirable of human qualities; adaptability, tolerance, generosity and helpfulness. They hoped that their cooperative enterprises would be a school in which they could learn and develop the gentle art of mutual aid. They saw that cooperation was successful in the home and productive of valuable traits of character. It was, however, operative within very narrow limits and they hoped that cooperative housekeeping would extend the area without destroying the spirit which pervaded it. They hoped that it would create an environment wider than the individual home within which a premium would be placed, as it is in family life, upon those characteristics which draw men together and enable them to work harmoniously for the common good, upon trustfulness, unselfishness and forbearance.

Enlargement of a cooperative area, however, brings with it a multiplication of the problems involved, and it is evident that at present human beings are unable to overcome the difficulties attendant upon the voluntary association of family groups for housekeeping purposes. They lack both the goodness and the wisdom. This it seems clear we must admit, even those of us who are sure that after we have become sufficiently good and sufficiently wise we shall not wish to experiment in cooperation. We must admit that we are not good enough unless we wish to undervalue unselfishness, the spirit of self-sacrifice and mutual helpfulness and the willingness to compromise and make mutual concessions in the interests of the greatest good of the greatest number, for cooperative housekeeping would certainly put a

larger strain upon these virtues than our present methods of living.

That we are not wise enough to enter extensively upon technical cooperative enterprises is shown by the fact that we are prone to confuse equitable with equable distribution of benefits and to adopt the latter which though easy is thoroughly unfair except, it should be added, where little children are concerned. We all, it may be conceded, have come to believe that all children should be given equally good starts in life, equally pure air, equal access to the sunlight, equally nourishing and pure food, and equally thorough education and training. But after people are grown and have developed different degrees of industry, ability and talent, their rewards must, in some measure, be apportioned to their contributions to the common life. The more a person puts into a cooperative enterprise, the more of thought or of labor, the more he should in fairness get out of it and it is doubtful if we are yet wise enough to measure either what he contributes or what he should receive in return.

We need goodness, knowledge and judgment before we can make cooperation successful. But added goodness, knowledge and judgment will come only with experience. We can grow good enough and wise enough to cooperate only by putting ourselves at every opportunity into positions which will develop within us the talents and the virtues which make successful cooperation and united action possible. We can learn to work together only by working together; to cooperate only by cooperating.

In view of the world's need for developing among all people the power of association, certain features and conditions of women's work for the home assume peculiar significance. When they gave up household industries and began to buy the commodities which were used by the families, women moved from the very limited but purely cooperative environment of the home into an enormously wide environment in which competition rather than cooperation is the controlling motive and in which those qualities which drive people apart rather than those which draw them together are developed. This is true except so far as they have delegated their duties to the government. All municipal enterprises, water and sewage systems, hospitals, play grounds, boards of public works, boards of health, public schools,

in fact all public institutions which help the home to keep clean, to ward off disease and to perform its important function of education, are in a sense cooperative. The housekeeper who sees that the work which these institutions are doing is really her own work, which she has merely delegated to them, finds a field for cooperation with other housekeepers who have delegated their labors to the same institutions. When the women of the town work together to secure for all homes, those of the poor, the ignorant and the unenlightened as well as those of the rich, the uneducated and the wise, the benefits of pure milk, for example, or clean markets, they create for themselves an environment which is similar to the old-fashioned home. There work and cooperation are the watchwords; there the welfare of the home is the end in view; there adaptability, tolerance and consideration are demanded; there unselfishness and the spirit of self-sacrifice are developed.

But the majority of household industries are delegated not to public institutions, but to private corporations and business firms. The lighting and heating of houses, the supply of hot water from central plants, pneumatic cleaning, laundry work, the spinning and weaving of cloth and the making of garments, the curing of meat, the making of butter, are now the tasks of the business world. In this world the spirit of mutual aid does not prevail. On the other hand all the profit which comes from production on a large scale becomes a bone of contention between producer and consumer. In the business world there are numberless opportunities to be kind, thoughtful, generous and helpful, but these are the incidents of business, not business itself. In business itself one man's interests are set against another's. It is into this kind of a world that most of our household industries have been carried.

Women, therefore, have moved into an environment in which they must seek opportunities for cooperative action, instead of finding them as a matter of course, as they formerly did, when their lives were passed almost exclusively in their own homes. Opportunities for united action may be found at present in the development and maintenance of municipal institutions, hospitals, play grounds, reading rooms,—it would be well if one could add central heating plants, central pneumatic cleaners, bakeries, laundries and dairies. They are found also in the need for im-

provement in the quality of work done by municipalities. We need to unite to secure more efficient inspection of dairies, markets and bakeries, better smoke laws, better care of the streets, speedier and more satisfactory disposal of household waste, better protection of the home against infectious diseases, better building laws.

Such work is being effectively done in many places through departments of the women's clubs and through civic leagues, hospital, playground and public-school art associations, and child-labor committees. One city is said to have gone so far as to establish a Children's Bureau to promote the interests of children in its locality just as the National Children's Bureau is expected to promote the interests of all the children of the county.

Still further opportunities for cooperation are to be found in the establishment of employment agencies and women's exchanges and particularly in the effort to secure for all who work for the home, in public or in private, proper conditions of work and fair remuneration. "The Consumer's League," "The Woman's Trade Union League" and "The League for the Protection of Immigrant Women" have these ends in view. It is only by activities like those represented by the associations mentioned, that spiritual benefits of our present system may be had comparable with those which intelligent advocates of cooperative housekeeping sought. Only through work of this kind can we add improvement in methods and standards to economy of energy, as they hoped to do; only thus can we secure the development of character which they anticipated.

The relation between the material and spiritual benefits of united action for the improvement of home conditions is shown by the characters of various kinds of women who illustrate the different attitudes which it is possible to assume toward public work for the home. In one class, we have women whose only thought is to get out of work, women who have taken advantage of all kinds of modern labor saving schemes and devices, who have given up all household industries as fast as opportunities presented themselves and who have made no effort to meet the responsibilities which are coming to the home under its changed economic and industrial conditions. These women are at present among our most interesting and unpromising citizens.

In the next class are the women who see that their personal safety and comfort call upon them to unite with other housekeepers to combat the evils which arise from present methods of production. These women may from purely selfish motives take part in campaigns for better milk and purer food, and in spite of the selfishness of their aims, they get breadth of wisdom and experience in public work which make them interesting and valuable members of society if not public spirited citizens.

Finally there are the women who are uniting with others in public work for the home, not for the benefit and protection of themselves and their families alone, but for the benefit and protection of all. These women are finding a field for disinterested service larger than the private house but including it. This broad field of labor rather than the modern home alone is the logical successor to the home of the past with its multiple productive activities and those who work in it and not those who confine their interests within the four walls of home are the logical successors to the house-mothers of old. In this field are performed not only the end processes in the production of household commodities as in the home of today but as in the home of yesterday all those processes by means of which these commodities are made from raw materials. Here are met all those who labor for the home whether within its own narrow borders or in factories, offices and public institutions. Here the housewife learns to know those to whom she is indebted for the goods she consumes in her home; here she is able to work with and for these public household servants.

If the usefulness of various classes of citizens is indicated by the demands which are made upon them for assistance and advice, the women who are accepting the responsibilities of this broad field of labor and who are seizing its opportunities are growing rapidly in power and in capacity for service. They seem to have created for themselves an environment which calls for and develops the best qualities of mind and heart. Perhaps this environment is ethically at least a substitute for cooperative housekeeping.

Prayer and provender delays no man's journey.—OLD PROVERB

The fate of nations depends on how they are fed.

Plain food is quite enough for me.—OLIVER WENDELL HOLMES.

HOME PROBLEMS FROM ONE WOMAN'S POINT OF VIEW

A writer in the *Atlantic Monthly*, under the title, From An Average Woman, gives expression to some views regarding home problems which she believes are those of many average women,—that is women of experience and training, but with a preference for home life rather than for public life though possessed of sympathy with movements pertaining to the public welfare. The article is written from the point of view of one who secured a well-rounded education by obtaining domestic matters at home and academic education at a modern high-school and one of the New England colleges for women.

"I have no quarrel with my Alma Mater, as has one of my contemporaries with hers, because she did not teach me 'that if one is able to afford two vegetables with one's joint, they had better not be rice and potatoes.' I learned that in my mother's home before I went to college, together with other domestic accomplishments, including the making of bread and the darning of stockings."

Her college work in the classics she appreciates for more than its mere discipline:

"All along the way I received little flashes of inspiration and illumination which enrich and sweeten life for me even to-day."

College laboratory work particularly that in biology and botany is appreciated for the light it has given on physiological problems, and "knowledge of myself which has resulted in a sounder body and a saner mind. Quite aside from this, college increased my earning power, my sense of responsibility, my joy in literature and in life."

For five years after graduation the writer states that she was a business woman and very happy in her work, but also that she has been far more happy in her five years of married life, and more independent than when in business.

"I have a housekeeping allowance and one for my personal needs, as regular as my salary used to be; I have the control of my time, my work is not so monotonous, and my workshop is what

¹*Atlantic Monthly*, 103 (1909), No. 4, pp. 574-576.

I choose to make it. I do not feel like a 'paid housekeeper,' nor 'an unpaid domestic.'

"Now for my hypothesis: I believe that housework is an interesting and worthy craft, and that the majority of women, those who are not fitted for a career, enjoy it, or would if it were considered fashionable. I believe that housekeeping is a stimulating profession. I believe that home-making is an art. I believe that motherhood is a divine mission. All these are platitudes; is there any woman, out of print, who really has a different opinion?

"I believe that marriage is a life-partnership, to be entered upon only where there is mutual liking as well as love. . . .

"It seems to me only reasonable that a young woman should not marry unless she is both able and willing to keep house; even as she studies typewriting and shorthand before taking a position as stenographer. There are schools of domestic science reasonable in price, if one cannot learn at home. . . .

"I believe—and here I may be considered a rank heretic, even by other average women—that housewives do not have a monopoly of the drudgery of life. My personal definition of drudgery is compulsory work that one does not know how to do well. . . .

"Nor is the varied routine of the work of a house more monotonous than heating one iron bar after another, hour after hour, day after day, for instance; or adding up one column of figures after another. To my mind, who have tried both, the reading and editing of manuscripts grows monotonous and wearing sooner than the doing of all my 'own work' without a maid. . . .

"In the conduct of my household I have dealings with the Chinaman, the Italian, the Greek, the African, the sons and daughters of Ireland and Germany. All the problems of race and creed are at my back door, and I am willing to follow where they lead; but if I do, and if I continue to make old age less a barren waste for the aged in my home, and start the young in the right way to independence and happiness, and share my home with all the relatives and friends who have a claim upon my hospitality, am I neglecting the 'real work of the world'? I ask in all humility, for myself and for all the average women I represent, who rejoice with me that there are women of larger leisure and greater ability to espouse the cause of the working girl, and the child who should not work, and to secure better conditions in town and state."

U. S. GOVERNMENT PUBLICATIONS AS SOURCES OF INFORMATION FOR STUDENTS OF HOME ECONOMICS.

C. F. LANGWORTHY,

U. S. Department of Agriculture.

It is safe to say that very few persons realize the extent and variety of the publications which are issued by the different branches of the United States General Government, or have any adequate idea of the large amount of valuable data upon a wide range of topics included in these publications.

From time to time special lists of U. S. Government documents have appeared, and at the present time full lists and indexes of current publications are issued. It is to be regretted, however, that there are no entirely adequate indexes of the earlier publications of Government documents as a whole.

In 1885 Poore's Descriptive Catalogue of the Government Publications of the United States, September 5, 1774, to March 4, 1881, was published. The volume contains titles of publications arranged chronologically and an author and subject index. Though this work is of very great interest and value the material included is to some extent selected and the classification naturally makes no special effort to include Home Economics topics as the subject has been developed very largely since this work was undertaken.

The Comprehensive Index to the Publications of the United States Government, 1881-1893, by Ames, which was published in 1905, is essentially a continuation of Poore's Index, though the method of arranging the material alphabetically makes it much more useful.

In 1902 the Superintendent of Documents published Tables of and Annotated Index to the Congressional Series of United States Public Documents, which is a valuable and useful check list of Government documents. To a certain extent the material included is selected. This publication was followed by the Document Catalogue referred to later.

The fact that the Government documents are so numerous and so varied in their subject-matter makes it difficult for librarians or

individuals to classify and arrange the publications in such a way that the contents are easily made known and accessible, and doubtless this is one reason why they are not more generally consulted as works of reference. Another reason which has been suggested for a lack of appreciation of Government documents is the fact that for many years they were very generally distributed free of cost and it seems to be a failing of human nature to consider that anything which is given away cannot have very much value. Within recent years there has been a decided change of policy and a great variety of publications are now sold.

With a few exceptions U. S. Government documents of all kinds are published at the Government Printing Office in Washington. The list of documents includes a wide variety, ranging from the Congressional Record which appears daily and records in detail all business carried on by both Houses of Congress, to special bulletins, annual reports, periodicals, and many other kinds of publications. These documents are prepared by the different departments of the General Government, by Congress, by special commissions, and in other ways, and when ready for publication are submitted in due form to the Public Printer who is the head of the Government Printing Office and may be termed the Government Publisher.

With the exception of certain series of popular bulletins and other publications of general interest the Government publications are intended for sale. The price asked is merely sufficient to cover the cost of publication. In this respect the United States follows a plan adopted by a number of other nations. Thus, the so-called "Bluebooks" and other public documents of Great Britain are with few exceptions sold and not distributed gratis. There is this difference, however, that in Great Britain the sale of Government publications is in the hands of private firms designated for the purpose, whereas in the United States a public official, the Superintendent of Documents, supervises the storage and sale of public documents.

The United States Government is unusually generous in that the price of documents is so low that they are really within the reach of almost any person who may need them. It is also the policy to send publications free of cost in special cases to actual workers in many fields of inquiry.

Another important way of bringing publications into the hands of the public free of cost is the legislative enactments which provide for depositing Government documents in public libraries throughout the country.

Under proper restrictions Government documents are forwarded by mail without payment of postage, the use of this franking privilege being provided for by act of Congress; violations of its proper use being punishable by fine.

In connection with the question of the sale of documents and method of purchase, the following quotations from information circulated by the Superintendent of Documents are of interest:

"The Superintendent of Documents is authorized to sell at cost any public document in his charge, the distribution of which is not otherwise provided for. Only one copy can be sold to the same person, excepting Members of Congress, or to libraries or schools.

"Documents can not be supplied free to individuals [by the Superintendent of Documents], nor can they be forwarded in advance of payment.

"The accumulation of publications in . . . [the office of the Superintendent of Documents] amounts to several millions of which about 700,000 are assorted, forming the sales stock, and covering nearly every important department, bureau, and series. Many rare books are included, but under the law all must be sold 'at cost,' regardless of their age or scarcity. Of many of the most valuable works only one or two copies remain.

"In ordering [from the Superintendent of Documents], it should be borne in mind that most of the books have been in stock some time, and are apt to be shop-worn. In filling orders, however, the best copy available is sent.

"This Office possesses the most complete collection of U. S. Government publications in the world, and employs several document experts in reference work. Information regarding public documents will gladly be supplied.

"As the sales office for Government publications, we are anxious to inform the people how and where to secure documents they may desire.

"Lists. . . on various subjects, will be issued from time to time for free distribution. No general price list of public docu-

ments is at present available, but lists on special subjects will be furnished on application.

"Remittances should be made to the Superintendent of Documents, Washington, D. C., by postal money order, express order, or New York draft. Currency may be sent at owner's risk. Canadian postal notes will be accepted only when the name of the issuing office is plainly stamped on the face of the note. If postage stamps are pasted on, the note will be returned.

"Postage stamps, foreign money, uncertified checks, defaced or slick coin will positively not be accepted.

"No charge is made for postage on documents forwarded to points in the United States, Guam, Hawaii, Philippine Islands, Porto Rico, or to Canada, Cuba, or Mexico. To other countries the regular rate of postage is charged, and remittances must cover such postage."

The Superintendent of Documents issues a Monthly Catalogue which gives a complete list of U. S. Government publications of each month, including those of the President, both Houses of Congress, the Executive Departments, Library of Congress, Smithsonian Institution, and Bureau of American Republics. Each number has a preface entitled "Notes of General Interest," in which comment is made on the most notable publications listed therein.

The Monthly Catalogue is sent to each Senator, Representative, Delegate, and Officer in Congress, to designated depositories and State and Territorial libraries, to substantially all Government authors, and to as many school, college, and public libraries as the limited edition will supply.

"Subscription price to individuals, \$1.10 a year. Back numbers can not be supplied. . . .

"Beginning with the fiscal year 1909, there will be a cumulative index to the Monthly Catalogue for half-yearly periods. That is, the August number will contain an index to the July and August numbers, the September number will index three numbers, and so on until December. The June number will contain an index for the year."

For many years it has been the policy of the General Government to deposit its publications with selected libraries in different parts of the country. There are now 615 such libraries representing practically all regions of the United States. These

libraries are designated by Congressmen, and may be changed, so it follows that many libraries have only fractions of sets of the Government publications. If the intention of those responsible for this method of depositing Government documents were carried out, it would be possible for a person in any part of the United States to consult at some library in his vicinity any Government document which he wished to see, but it is too often the case that on receipt at a library Government documents are stored in some lumber room or disposed of in some similar way. Perhaps this is natural, for their very quantity is an embarrassment unless a library is unusually well equipped with a staff of cataloguers and other workers, and it is true of these documents, as perhaps of no other group of publications, that full classification and indexing are needed if the material contained in the volumes or pamphlets is to be accessible. For instance, the "sheep set" of documents, so designated from the fact that it was for many years bound in sheep skin, contains the documents and reports of the Senate and House, the annual reports and yearbooks of different departments and Geological Survey bulletins, and much other matter. From these statements it is apparent that no casual examination of the volumes would give an idea of the extent and character of the material which they contain. It is a great help to workers to know that the document index which is published for each session of every Congress contains a full index of the material included in the corresponding volumes of the sheep set. Furthermore, the Superintendent of Documents now publishes a "Document Catalogue" which appears as a document of the House of Representatives. On the title page of the last volume, which appeared in 1908 as Document No. 483, Fifty-eighth Congress, Third Session, House of Representatives, the title is as follows: "Catalogue of Public Documents of the Fifty-eighth Congress and of Other Departments of the Government of the United States for the Period from July 1, 1903, to June 30, 1905." The scope of the volume is indicated by the introductory paragraphs of the preface which are as follows:

"This, the seventh number of the Document Catalogue (Comprehensive Index), includes all documents and reports submitted to Congress, March 5, 1903, to March 4, 1905, without regard to the time when they were printed, and, in addition thereto, all publications of the Executive Departments, bureaus,

and offices of the Government issued during the two fiscal years July 1, 1903, to June 30, 1905.

It would be too much to expect that any ordinary reader would realize that under the name "Documents and Reports of Congress," which is the official title of the sheep set, would be found such a wide variety of articles as is the case, many of them of permanent value, others of current interest to general readers, and many of great value for the specialists in a large variety of lines. It is with a view to rendering such papers accessible that the Superintendent of Documents is issuing the various sorts of information already referred to.

THE WHITE HOUSE.

The documents which emanate from the White House are in the nature of things chiefly concerned with matters directly connected with the President and his official activities. It is not unusual, however, to find that such papers contain data of interest from the standpoint of the subject of Home Economics. For instance, the messages of the President to Congress often include matter of value regarding questions affecting the home life of every family.

DEPARTMENT OF JUSTICE AND THE POST-OFFICE DEPARTMENT.

The Department of Justice and the Post-Office Department issue many documents but they are in the main concerned with the specific work of these Departments and with topics of interest to students of history, law, and other such subjects, rather than to students of Home Economics. The Department of Justice has, however, in recent years devoted much time to questions concerned with the national pure food law and its application. The opinions and decisions of the Attorney-General on such topics are matters which interest the consumer of food products as well as the manufacturer and distributor.

DEPARTMENT OF AGRICULTURE.

The other branches of the General Government are those whose work is more likely to be of interest to students of Home Economics, and in the nature of things the Department of Agriculture is perhaps first in the list as it is concerned with the production, protection, and distribution of food products, both

animal and vegetable, with fibers, with timber, and in general, with the raw materials and many commercial products which pertain to the home and its problems. Furthermore, the Department of Agriculture has important educational functions and is the center of the experiment station movement, a movement of the greatest importance in accumulating data and in bringing the results of scientific investigation and experiment directly to the person who needs them.

The main Divisions of the Department of Agriculture are the Office of the Secretary, the Weather Bureau, the Bureau of Plant Industry, the Bureau of Animal Industry, the Office of Experiment Stations, the Forest Service, the Bureau of Entomology, the Bureau of Chemistry, the Bureau of Soils, the Bureau of Biological Survey, the Office of Public Roads, the Bureau of Statistics, and the Division of Publications.

The Library of the Department should also be mentioned as it is of the greatest importance to the experimental and other work of the various bureaus. All of the bureaus and other main subdivisions of the Department of Agriculture issue publications which are of interest to students of Home Economics.

A list of titles which the Superintendent of Documents has published of Department of Agriculture publications now obtainable by purchase, arranged by bureaus, is well worth reading and doubtless it would surprise even those who are tolerably familiar with the scientific work carried on under Government auspices to see how many papers of interest on chemistry, forestry, plant production, the inspection of food materials, the nutrition of man, the feeding of animals, food legislation, statistics of agricultural products of all sorts, and papers on insects, birds, mammals, and other topics are being issued by this Department.

Much more extensive is the list of publications of the Department of Agriculture (1862-1902) with an analytical index which was published by the Superintendent of Documents, which is a book of 623 pages. Entries are arranged by bureaus and also alphabetically by title and author. Library classification numbers are given and the volume as a whole serves as a check list of Department of Agriculture publications for the period included.

It is perhaps true that as sources of information on historical, statistical and descriptive lines Government documents would prove equally useful for students of Domestic Science and Do-

mestic Art, the two main branches of the general subject of Home Economics, but whether or not this is literally the case, it is certainly true that the amount of data available on both subjects is very large. In the case of specific information it seems certain that more is available on the subject of food and other Domestic Science subjects than is the case with those which pertain to Domestic Art, and this is due in large measure to the fact that the chemistry of food and related subjects has been for so many years one of the principal lines of activity of the Bureau of Chemistry, and to the studies of human nutrition have been systematically undertaken for many years by the Office of Experiment Stations.

In the Office of Experiment Stations bulletins which have been published in connection with the nutrition investigations are naturally first in interest to students of nutrition. These include the technical reports of investigations as well as popular summaries based on the work. There are about 60 technical bulletins and 50 popular publications, most of which are still available. The technical bulletins may be purchased through the Superintendent of Documents as the small edition provided for distribution by the Department of Agriculture has in many cases been exhausted. The popular summaries of nutrition subjects have appeared in what are termed Farmers' Bulletins, and also as reprints, separates and circulars, and in so far as they are available are distributed gratuitously. As is the case with other series of publications of the Office of Experiment Stations, lists of nutrition bulletins are published for free distribution, which give short summaries of their contents, the price and method of distribution, as well as bibliographical data. The Superintendent of Documents has also published a list of Government documents dealing with food which includes the titles of the Office of Experiment Stations nutrition publications and others. The bulletins of the Agricultural Education Division of the Office and of the Farmers' Institute Division are of interest from the standpoint of pedagogics and general educational subjects, while the bulletins of the Divisions of Irrigation and Drainage supply data on a variety of topics concerned with the conservation of water and its use for agricultural purposes in both arid and humid regions.

The Office of Experiment Stations nutrition publications represent the results of the experimentation and collection of

general data carried on under the nutrition investigations first authorized by Congress in 1894. At its inception this work was assigned to the Office of Experiment Stations under the direction of Professor W. O. Atwater and for a time naturally centered at Middletown, Conn., where Professor Atwater was head of the Chemical Department of Wesleyan University. For ten years or more, cooperation with agricultural experiment stations, agricultural colleges, philanthropic organizations and other institutions was an important feature of the work and notably increased the total output. The investigations are now centered in Washington where adequate quarters have been provided in the new Department of Agriculture Building and the respiration calorimeter which was in Middletown, Conn., has been rebuilt with a number of important improvements.

The nutrition investigations have included studies of experimental methods, the development and operation of the bomb calorimeter, the development and operation of the respiration calorimeter, studies of the composition and relative nutritive value of different foods, dietary studies with individuals and groups living under a variety of circumstances, digestion experiments with different food materials and food combinations, studies of factors which affect digestion, experiments on the metabolism of nitrogen, and on the balance of income and outgo of matter and energy; studies of the changes and losses due to different cooking processes, particularly with reference to meat and some vegetables, special studies of the nutritive value and digestibility of bread of different kinds and of other cereal foods, special studies of the digestibility and nutritive value of cheese and of fruits and nuts, studies of food supplies of different localities, the effects of muscular work of different kinds and varying intensity on metabolism, the effects of mental work on metabolism, studies of iron and other ash constituents of food, and the place of ash constituents in the diet and studies of institution dietetics and household problems.

The technical nutrition bulletins report the results of these investigations. Titles selected as typical of these publications follow: The Composition of American Food Materials; Dietary Studies at the University of Tennessee; Description of the Respiration Calorimeter and Experiments on the Conservation of Energy in the Human Body; Report on the Digestibility and

Nutritive Value of Meat; Iron in Food and Its Functions in Nutrition; Studies of the Effects of Different Methods of Cooking Starch; and The Influence of Muscular and Mental Work on Metabolism.

The general summaries which have been based on the investigations and the data collected in connection with them have been published very largely in the Farmers' Bulletins though sometimes in circulars and sometimes as reprints from the annual reports of the Office of Experiment Stations, the Yearbooks of the Department of Agriculture, and similar sources. These popular publications discuss such subjects as meat, milk, fish, eggs, fruit, vegetables, sugar, cereal foods, nuts, the general theories and problems of nutrition, conveniences for the home and similar topics.

It is perhaps not too much to say that the nutrition investigations of the Office of Experiment Stations, both in the extent and variety of the problems studied and in the results which have been obtained, represent the largest organized enterprise in this or in any other country for the specific purpose of studying such questions. The data here presented show that the bulletins and other published material issued as a result of this enterprise are numerous and include a wide variety of topics. Owing to the scarcity of general text and reference books on nutrition subjects, the nutrition publications of the Office of Experiment Stations have been widely used in schools, colleges, medical schools, etc., to take their place. Furthermore, even a casual examination of journals and books which are published on these subjects will show that they have been freely quoted by writers on nutrition topics in the United States and other countries.

A publication of the Office of Experiment Stations which should be consulted regularly by all teachers of Home Economics is the Experiment Station Record, a monthly abstract journal which summarizes the publications of the agricultural experiment stations, and in addition, reviews the scientific literature published in all countries which would be of interest to the investigators in the agricultural colleges and experiment stations. The abstracts are classified under the following divisions: Agricultural Chemistry, Foods—Human Nutrition, Animal Production, Dairy Farming—Dairying—Agrotechny, Meteorology—Water, Soils—Fertilizers, Agricultural Botany, Field Crops,

Horticulture, Forestry, Diseases of Plants, Economic Zoology—Entomology, Veterinary Medicine, Rural Engineering, Rural Economics, Agricultural Education, and some miscellaneous topics. In addition to the abstracts, the Experiment Station Record contains editorial discussions of scientific, educational, and other topics, and personal and other notes of interest to experiment station workers. Owing to a limited edition the Experiment Station Record is sent free to few individuals other than college and station workers, unless there is some special reason for it. It is distributed quite generally to libraries where it may of course be consulted by students. However, as is the case with most Government documents, the Experiment Station Record may be purchased for a sum designed simply to cover the cost of publication, in this case at present \$1.50 a year. The first number of the Record appeared in September, 1889, and it is now closing (1909) its 20th volume. Each volume includes detailed indexes and a general index has been published of volumes 1 to 12. A set of the Experiment Station Record constitutes in itself a very valuable reference library.

It has been the policy of the Office of Experiment Stations to issue lists of the publications of its different divisions and to keep these lists up to date. Thus, a list of the nutrition publications of the Office has appeared at frequent intervals, as have also lists of the publications of the Division of Irrigation and Drainage, of Farmers' Institutes, and of Agricultural Education.

The Farmers' Bulletins, a series of publications intended for free distribution, which originated in the Office of Experiment Stations, and has become a general series of the Department of Agriculture, are of great importance and value since they are designed to summarize in non-technical form the results of investigations on all topics concerned with the general subject of agriculture. Of these bulletins over 350 have appeared to date. The Farmers' Bulletins which deal with food and nutrition have already been mentioned. Others of special interest to students of Home Economics are those dealing with insect pests, with weeds, with the cultivation of vegetables and flowers, and other gardening topics, the use of alcohol for fuel, flax and other fibers, forest planting and farm management, and so on.

Included in the series of Farmers' Bulletins is the sub-series entitled "Experiment Station Work," each number of which

contains 10 or 12 summaries of recently published articles chiefly those of the agricultural experiment stations. Food and nutrition topics, house construction and home betterment, the cultivation of farm and garden crops, water supply for farms and homes, and many other similar questions are included among the topics discussed.

Lists and indexes of the Farmers' Bulletins have been published and these as well as the bulletins themselves may be secured on request from the Division of Publications of the Department of Agriculture or from Members of Congress.

The publications of the agricultural experiment stations are in a sense Government documents, as the institutions which issue them were established in each State and Territory by the General Government and receive funds from the General Government for their support. They are not Government documents, however, in the same sense as the publications already referred to, since they are published and sent out locally, though under franking privilege, while the Government documents, as the term is ordinarily used, almost without exception bear the imprint of the Government Printing Office in Washington. With respect to experiment station publications, there are a few exceptions in the method of publication. Thus, the publications of the Alaska, Porto Rico, and Hawaii Agricultural Experiment Stations are under the law issued as regular Government documents from the Office of Experiment Stations.

It is almost needless to say that the publications of the agricultural experiment stations contain an enormous amount of data on food and nutrition, food inspection, physiology, hygiene, dairying, the production, inspection and marketing of farm crops, fruits, poultry and meat products, and on many other topics pertaining to sanitation, construction of buildings, maintaining forests, and the destruction of insect and animal pests. Of special interest are the numerous publications of the Connecticut (Storrs) Experiment Station which contain papers by Professor W. O. Atwater and his associates on human nutrition, and which are valuable not only for their subject-matter but also for their relation to the development of this subject in the United States. The Office of Experiment Stations issues a monthly list of titles of experiment station publications and in the Experiment Station Record, as already stated, reviews all the publications as

issued. A general list of experiment station publications and of Office of Experiment Station documents, complete to date, was included in a bulletin of the Office of Experiment Stations entitled *The Agricultural Experiment Stations of the United States* which was published in 1900, and was also issued as a separate. The experiment station publications are distributed on request by the station directors, preference being given to residents of the State in which a particular station is located, and with the exception of the Alaska, Hawaii, and Porto Rico publications are not distributed by the General Government.

Index cards prepared by the Department of Agriculture Library and issued by the Library of Congress give titles and other bibliographical data of publications, as they are acquired, while the index cards issued by the Office of Experiment Stations give brief notes concerning practically all the work published by the agricultural experiment stations. Both the Library cards and the Office of Experiment Station cards (which are sold for a low price) are classified and the cards for each class may be purchased separately. The Library of Congress Bulletin of Card Distribution Section gives full data regarding the Library cards. Those of the Office of Experiment Stations are fully described in a circular of the Office. In the case of the Office of Experiment Stations set, students of nutrition often order those cards which have to do with food and nutrition of man, agricultural chemistry, dairying, and animal production, and occasionally horticulture and field crops.

For many years the Bureau of Chemistry has been studying problems concerned with the composition of food materials, with the production of sugar and other food products, with the elaboration and perfection of methods pertaining to the examination and analysis of foods and other agricultural materials and with other important problems.

The Association of Official Agricultural Chemists has since its organization been particularly concerned with devising, testing, and comparing methods for the analysis of foods and other agricultural materials. The proceedings of the organization have appeared as publications of the Bureau of Chemistry and it is not too much to say that this Bureau has been a factor second to none in these investigations of standard analytical methods. The Home Economics student who takes up chemical work in

any of the lines relating to his subject is dependent in large measure upon the work of the Bureau of Chemistry for his laboratory methods and other information, and will find the material which he seeks in many other bulletins of the Bureau as well as those which contain the proceedings of the Association of Official Agricultural Chemists. The passage of the National Pure Food Law has added very largely to the work of the Bureau of Chemistry, both from the standpoint of investigation and inspection. Of the recent investigations of the Bureau may be mentioned the studies of the effects of the various commercial preservatives on general metabolism and health, and the studies of the effects of cold storage on meat, poultry, and other food products. As illustrations of the wide scope of the work of this Bureau, the following titles of publications of interest to students of Home Economics may be noted: Tea, Coffee, and Cocoa Preparations; Extent and Character of Food and Drug Adulteration; Compilations of Food and Drug Laws; Chemical Analysis and Composition of American Honeys; Studies of Apples and numerous other studies of the chemical changes which accompany the ripening and storage of fruits; Meat Extracts and Similar Preparations; Some Forms of Food Adulteration and Simple Methods for Their Detection; and Official and Provisional Methods of the Association of Official Agricultural Chemists.

The work of the Bureau of Animal Industry is very varied, including investigation and experiments in biological chemistry, dairying, animal feeding and other subjects, as well as a large amount of inspection work concerned with meat and meat products designed for domestic and foreign trade. There is perhaps no division of this Bureau which does not at some time publish work of interest to the student of Home Economics. As indications of the activities of the Bureau, the following publications may be cited: Dairy Schools: Information Concerning the Angora Goat [and Mohair Wool]; Investigations on the Manufacture and Curing of Cheese; The Available Energy of Red Clover Hay [Experiments with the Respiration Calorimeter]; The Federal Meat Inspection Service and Varieties of Cheese.

In general, it may be said that the Bureau of Plant Industry is concerned with the study of problems pertaining to the production and protection of plant crops and to the economic management of farm problems, particularly as related to the production

of plant products, and with other problems which have to do fundamentally with plant life in its relation to agriculture. The list of publications which interest students of Home Economics is a long one, including as it does botanical studies of a great variety of plants, studies of cotton, flax, and other fiber plants, of the cultivation of farm and garden crops and the combating of plant diseases and other questions. An idea of the work of this Bureau as it interests the Home Economics movement may be gained from the following titles: *The Commercial Status of Durum Wheat*; *Wild Rice—Its Uses and Propagation*; *The Avocado—A Salad Fruit from the Tropics*; *Tuna [Cactus Fruit] as Food for Man*; *The Mulberry and Other Silk Worm Food Plants*; and *The Cold Storage of Small Fruits*. Like most of the other bureaus, the Bureau of Plant Industry has prepared lists of its publications.

The Bureau of Soils is engaged in soil surveys of the United States and in physical and chemical investigations of the nature of soils with special reference to agricultural problems. Whenever questions of the nature and character of agricultural soils arise, the student should consult the records of the work of this Bureau.

The Forest Service has developed very greatly in the extent and importance of its work in the last 10 or 12 years. This Bureau, in addition to its important work in connection with the national forests, is engaged in studying problems connected with the growth and protection of forest trees, with the preservation and utilization of wood, the maintenance of forests, and other questions. Whenever a topic arises which concerns the general question of the management of trees, the production of lumber, the relative value of different sorts of timber for house construction, or other purposes, the bulletins and other publications of the Forest Service should be consulted.

The publications of the Weather Bureau are in the main technical and of interest chiefly to meteorologists and those interested in other questions of physical geography. It not infrequently happens, however, that some special question is considered which pertains to subjects included in Home Economics. For instance, a paper was published some years ago on the influence of high altitude, that is, diminished atmospheric pressure, upon cooking processes.

The Bureau of Statistics, as its name implies, is chiefly concerned with collecting and digesting statistical data relating to agriculture and agricultural products, and from its publications much which is of value to the Home Economics student may be secured. The Crop Reporter, a periodical publication of this Division, gives current information of a statistical nature. From time to time, the Bureau publishes bulletins on special topics which the student of Home Economics will find useful, as for instance, Meat Supply and Surplus with Consideration of Consumption and Export, which is an exhaustive summary of data regarding meat consumption, the meat trade and similar topics.

The Bureau of Entomology as a part of its work has studied insect pests and methods of destroying them. The work which has to do with flies and other household insects is of particular interest to students of home problems but there is a great amount of other work to which attention should also be directed; for instance, the studies of insects injurious to farm and garden crops.

The Bureau of Biological Survey is investigating problems which pertain to the distribution of animal life in the United States and the life history of birds and mammals in order that useful species may be protected and those which are harmful destroyed or kept within bonds.

The Division of Publications exercises editorial functions and supervises the publication and distribution of the bulletins and other documents of the Department of Agriculture. The Yearbook of the Department, to which all the bureaus and other divisions contribute, is edited and published by the Division of Publications. The Yearbook is published for general distribution and is designed to give in popular form summaries of agricultural topics and reports of progress along agricultural lines. It may be obtained through members of Congress. An Index for the Yearbook has been issued recently. Numerous indexes of Department publications have been issued by the Division of Publications which should be consulted by the student of Home Economics; for instance, the Index of Farmers' Bulletins Nos. 1 to 250, which was published as Bulletin 8 of the Division of Publications. Mention should also be made of Division of Publication Circular 2 which contains a list of publications for free distribution. Other important indexes are the

Index to Literature Relating to Animal Industry in the Publications of the Department of Agriculture, 1837-1898, leaflets giving lists of Farmers' Bulletins and other publications. The division of Publications also issues a Monthly List of Publications giving titles of current bulletins, circulars, etc., issued by the Department. This list is sent free to all who request it and should be in the hands of every student of Home Economics as it affords a ready means of keeping track of the Department of Agriculture publications.

STATE, WAR, AND NAVY DEPARTMENTS.

For many years the State Department published the Consular and Trade Reports but as noted elsewhere, this is now done by the Department of Commerce and Labor, the change having been made in 1903. The material which appears in these reports, however, is collected and put in shape for publication by the Bureau of Trade Relations of the State Department. As compared with the other executive branches of the Government, the State Department has issued few publications and the bulk of them, as would be expected, deal with treaties and other questions of national and international policy.

The War Department has published many bulletins and reports dealing with army rations, equipment of troops and similar topics, and has also studied matters of more special interest to Home Economics students. For instance, the tests of specially constructed fireless cookers suited to army use described in the reports of the Commissary-General, the accounts of the work of the schools for army cooks, discussions of diet in tropical regions, and other similar material may be mentioned. The Manual of the Subsistence Department United States Army, recently published by the Office of the Commissary-General, is an example of another kind of publication dealing with food problems. This takes up subsistence stores, ration issue, kitchen cars for army use, and related questions.

The Library of the Surgeon-General's Office of the War Department contains one of the most complete collections of medical literature in the United States, and indeed in the world. On its shelves may be found the bulk of the medical journals and reference works of all countries, as well as special publications dealing with sanitation, hygiene, nutrition and related ques-

tions. The Index Catalogue of the Library of the Surgeon-General's Office is one of the most valuable of reference works and may be consulted in most large libraries. This Catalogue comprising to date some 29 volumes, contains both subjects and author entries not only of books and pamphlets, but also of many articles in periodicals, publications of learned societies, etc. The student who has in hand a subject for special study or investigation will always do well to consult these volumes with a good chance of finding something which pertains to the question in which he is interested.

The statements which have been made regarding the work of the War Department in its relation to food and nutrition may also be applied to the Navy Department. The proper feeding of the naval forces and the provisioning of ships are very important problems and the numerous publications dealing with rations for the Navy and related matters are of interest not only in themselves, but also as a contribution to the general question of food requirements and dietary standards. Cookbooks suited to the special needs of army and navy cooks have been issued by both the War and the Navy Department. A recent mess book, designed for cooks in the Navy, gives a large number of recipes in quantities suitable for 100 men. Not infrequently the publications of the Navy Department contain useful information on some special food topic. As an instance may be cited an account published in Memoranda for the Information of Officers of the Pay Corps, Commanding Officers of Ships and Commandants of Stations, 1908, No. 85, of tests of evaporated eggs, milk and vegetables. Investigations in hygiene carried on by both the War Department and the Navy Department are of general interest as are the investigations which concern materials used for clothing and for other purposes.

DEPARTMENT OF THE INTERIOR.

The Department of the Interior includes a number of bureaus or other sub-divisions which issue publications of interest to Home Economics students.

The Patent Office, one of its important divisions, prepares printed specifications of patents which it has granted but these though sold under certain conditions, are not designed for general distribution. It is often possible, however, to consult

such publications and they frequently afford reliable information regarding some manufactured product or the machinery used in its manufacture which would be difficult to obtain except from this source or from *The Official Gazette* which is issued monthly by the Patent Office and contains condensed descriptions of all patents issued, trade-marks licensed, etc.

For many years what is now the Department of Agriculture was a part of the Department of the Interior, and the earlier work of the Department of Agriculture appears in Patent Office Reports.

The Geological Survey and the Reclamation Service, which are important subdivisions of the Department of the Interior, have published a very large number of important bulletins and reports dealing with mineral resources of the United States, engineering problems, and other topics included in these fields of activity. Of special interest to students of Home Economics are the publications which deal with coal, fuel tests, minerals and metals, water supplies, marble, granite, and other building materials and similar questions.

The Bureau of Education of the Department of the Interior was established to collect and distribute information regarding educational questions in the United States and its publications are of great value to educators and students. In many of them statistics and other information can be obtained regarding the Home Economics movement in the United States and other data which it would not be possible to obtain elsewhere. *The Daily Meals of School Children* by Caroline L. Hunt which appeared in Bureau of Education Bulletin 1909, No. 3 may be mentioned.

The Office of Indian Affairs of the Department of the Interior supervises affairs connected with the American Indians, and a document issued by this Office which is of special interest in this discussion is *Teaching the Rudiments of Cooking in the Class Room: Primary Methods and Outlines for the Use of Teachers in Indian Schools*, which appeared in 1906.

DEPARTMENT OF COMMERCE AND LABOR.

The publications of the Census Office, which is one of the principal sub-divisions of the Department of Commerce and Labor, contain a very great amount of data often difficult to obtain elsewhere regarding processes of manufacture, the

character of the manufactured products, the growth and distribution of industries, and on similar topics, in addition to strictly statistical matter. As illustrations of valuable special papers issued by the Census Office may be mentioned articles, which appeared in a volume^a published in 1908, on textiles, cotton manufactured products, wool manufacturers, silk manufactured products, buttons, oil cloth and linoleum, butter, cheese, and condensed milk, flour and grist mill products, canning and preserving, rice cleaning and polishing, slaughtering and meat packing, cotton-seed products, lumber and timber products, and so on. Some of these articles, for instance that on canning and preserving, include an historical and descriptive section which is of decided interest, or a section on the description and use of the products as in the case of the article on cotton-seed. Not all volumes of these Census Office reports would prove of equal interest to students of Home Economics but whenever a question arises connected with foods, textiles, or other commercial products on which information is desired, it is well worth while to look in the Census publications for it is more than likely that they will supply information which it would be difficult to find elsewhere.

The Bureau of Statistics of Labor of the Department of Commerce and Labor has studied a great variety of problems relating to food supply, the cost of living, the distribution and expenditure of incomes, and other related topics, and the publications of this Bureau should always be consulted by a student or investigator who is interested in such problems.

The Bureau of Statistics of Labor was established a number of years before the Department of Commerce and Labor of which it is now a part. Cooperating with this Bureau, Professor Atwater (1888-1892) carried on dietary studies of factory operatives and other families in different localities and the nutrition investigations of the Department of Agriculture, may in a way, be looked upon as an outgrowth of this work and that which was undertaken for the Smithsonian Institution (see p. 249) and Fish Commission.

The Fish Commission is now a part of the Department of Commerce and Labor. Many of its publications are of particular

^a Special Reports of the Census Office—Manufactures, pt. 3. Selected Industries, 1905

interest. It may be noted that Professor Atwater's studies of the composition of food fishes and marine invertebrates, were undertaken in part under the auspices of the Fish Commission. Numerous publications of this Commission contain statistical and other data regarding food fishes and fishing industries. From time to time other subjects are included. As an illustration may be mentioned a report on marine algae and their possible value as food products, for making glue, and for other purposes.

The Daily and Monthly Consular and Trade Reports formerly issued by the State Department but now by the Bureau of Manufactures of the Department of Commerce and Labor, contain much matter of interest in connection with the lines of work now under consideration. These publications are made up of short summaries, usually on current topics submitted by U. S. Consuls and Consular Agents. To cite a few articles at random, mention may be made of Food in Asiatic Turkey, Japanese Labor—Comparative Efficiency, and of Water Aspirators for Homes—Simple Devices for Cleaning.

The Bureau of Standards, which is also a part of the Department of Commerce and Labor, carries on important research work in chemistry and physics in addition to its standardization of scientific instruments and other work which naturally pertains to a bureau of this character. The reports of the scientific investigations referred to appear in the Bulletin of the Bureau of Standards which is issued as a periodical, and in other Bureau publications.

THE TREASURY DEPARTMENT.

The greater part of the work of the Treasury Department is concerned with the financial questions of the United States, the customs service, the auditing of accounts of the different departments, and related matters. The attention of students of Home Economics is especially directed to the work of the Supervising Architect's Office, the work of the Office of the Commissioner of Internal Revenue, and the work of the Bureau of Public Health and Marine Hospital Service. In connection with the Internal Revenue work, much has been published regarding the legal status of foods and beverages. Such publications as the Gaugers' Manual include tabular matter of interest to analysts.

The following titles may serve to illustrate the importance of publications issued by the Public Health and Marine Hospital Service of the United States and the Hygienic Laboratory which is a part of this Bureau: Milk in Its Relations to Public Health; The Thermal Death Point of Pathogenic Micro-organisms in Milk; Disinfection Against Mosquitoes; and Pellagra, A Precip, which discusses this disease attributed to eating spoiled Indian corn.

CONGRESSIONAL DOCUMENTS.

The Library of Congress has one of the most important collections of books, periodicals, and documents in the world. Those who have the opportunity can freely consult its great collections in the public reading room. As a part of its work the Library of Congress publishes entry cards of all material which it receives which give title, author, and other bibliographical data. These cards are classified and sold in sections. By the purchase of sections which deal with food and nutrition, textile fabrics, and other Home Economics topics, it is possible to secure much valuable information regarding sources of information. Catalogue cards prepared by the Bureau of Education, Geological Survey, and Department of Agriculture are also published and are for sale by the Library of Congress. They cover publications of the Geological Survey and articles and reports of the Bureau of Education, as well as other publications received at these libraries. The subject headings on these Library of Congress cards are of use in determining the character of the publications more definitely than by title alone.

The publications of the National Academy of Science appear as Senate Documents and some of them are valuable to students of Home Economics. Mention may be made of the paper on bacteriological examination of the soil, and on that dealing with respiration calorimeter experiments by Atwater and Benedict.

Special reports of committees, commissions, and other bodies are often issued as Government documents, the source of publication varying with the nature of the inquiry and other circumstances. Thus, the report on the occurrence and spread of typhoid fever during the Spanish War, which contains a great deal of value in relation to home hygiene, the dangers from flies and dust in relation to disease, and similar topics were published as a

report by the War Department. The recent reports of the President's Home Commission appeared as a Senate Document of the 60th Congress, 2d Session. This contains data on industrial hygiene and social betterment. Special subjects included in the latter section are alimentation and foods, good food at reasonable cost, food and home betterment, sociological studies of 1,251 subjects, the business relation of wage earners to the scale of wages and cost of living, as well as other articles which might be mentioned.

The Report of the Country Life Commission which appeared also as a Senate Document, is a publication of special interest as it summarizes the results of the work of this Commission regarding life in rural regions and the improvement of conditions where this is needed.

It is difficult even for those who have unusual facilities for knowing about such matters to keep track of Government documents of this class since oftentimes the title does not give information as to the contents of the publication. In so far as possible, articles which have to do with food or other Home Economics topics which appear in such publications, are usually included among those noted in the Experiment Station Record.

INDEPENDENT AND MISCELLANEOUS INSTITUTIONS AND COMMISSIONS.

In addition to the Government Divisions which have been mentioned, there are a number of commissions, etc., which are classed in the Congressional Directory as "Independent and Miscellaneous." Of these the Government Printing Office and one of its main divisions, the Office of the Superintendent of Documents, have already been mentioned. The Smithsonian Institution, the Commission of the Philippine Islands, the International Bureau of American Republics, and the Civil Service Commission should also be noted in this discussion of Government documents and their use.

The Smithsonian Institution with its subdivisions, notably the National Museum and the Bureau of American Ethnology, is interested in so many lines of work that a great variety of topics have been included in its publications. Many of these articles are of great value and importance. Of Smithsonian Institution publications of special interest to students of Home Economics

may be mentioned: The Select Bibliographies of Chemistry; Oils, Mediums and Varnishes Used in the Painting of Pictures; Order of Development of the Primal Shaping Arts; The Atmosphere in Relation to Human Life and Health; and many papers on insects, birds, mammals, etc.

The following will serve as examples of National Museum publications which are of interest in connection with Home Economics: Prehistoric Art; Preparation of Microscopical Mounts of Vegetable Textile Fibers; Primitive Travel and Transportation; Wokas, a Primitive Food of the Klamath Indians; and numerous papers on collecting and preserving specimens of various sorts.

From the publications of the Bureau of Ethnology the following titles have been selected: A Study of Textile Art in Its Relation to the Development of Form and Ornament; Prehistoric Textile Art of the Eastern United States; Origin and Development of Form and Ornament in Ceramic Art and The Wild Rice Gatherers of the Upper Lakes, A Study in American Primitive Economics.

The Smithsonian Institution, the National Museum and the Bureau of American Ethnology all issue lists of their publications.

It is of interest to note in this connection that Professor Atwater's earlier studies of nutrition, undertaken before the establishment of the nutrition enterprise in the Office of Experiment Stations, were carried on in part for the National Museum. A notable piece of work was that which had to do with the composition of food materials, particularly food fishes. He also arranged illustrative material for the Museum relating to human food and assisted in the classification of material pertaining to this subject.

The Civil Service Commission has charge of the examinations and other similar matters pertaining to appointments under the Government Classified Service. As many students of Home Economics and related lines of work have such positions in mind, the publications of the Civil Service Commission are naturally of use to them.

The International Bureau of American Republics publishes a monthly bulletin which contains articles on plant products, industrial development, municipal organization, geographical, statistical, and many other articles concerning the republics of

North, South and Central America. An index to the monthly bulletin is issued regularly.

In the above enumeration and discussion of Government documents of use to students of Home Economics no attempt has been made to include everything which could be mentioned. The purpose has rather been to present enough data to demonstrate the fact that this class of publications has contributed much that is fundamental to the question of Home Economics from the standpoint of scientific data, historical and other general matter and pedagogical methods. Many works of reference and many scientific journals which are concerned with Home Economics are not infrequently difficult of access to the student in institutions of learning as university librarians in the past have not generally appreciated their importance and so have not endeavored specially to collect them. From this standpoint the Government documents have an added value since they are accessible in most university libraries and copies can often be obtained for school and class room use in addition to those in the Library.

In this discussion nothing has been said about the publications of the several States which are also Government documents in the sense that they are issued under State auspices. The reports of boards of health and State dairy and food commissions, State departments of agriculture, statistics and education, of charitable reformatory and penal institutions, and so on, which have been printed and distributed under State auspices afford a large amount of information which is of interest to students of Home Economics. This class of literature is indeed so extensive and varied that it deserves discussion by itself, and the same may be said of the publications of municipalities which include among other documents, reports of city boards of health, superintendents of public institutions, supervision work connected with the manufacture of food and other products, and documents dealing with a variety of other fields of activity.

Librarians of university libraries, particularly those connected with agricultural colleges and experiment stations, and of public libraries are every year recognizing more fully the importance of Government documents and the vast amount of information which they supply on scientific, statistical, historical and other topics, as well as on the activities of the various

branches into which the Government is divided. Students in Home Economics Departments who make use of their reference catalogues will find it well worth while to learn something of the general classifications of Government documents and the character of the publications issued by the different departments, bureaus, etc. It is suggested that it would be well worth while for a group of students, preferably from the most advanced classes in the Home Economics Department, to take up as a part of their regular work the study of this question. Such work is greatly facilitated by the use of the Monthly Catalogue of the Superintendent of Documents, the Monthly List of Experiment Station Publications, the Monthly List of Department Publications, the Experiment Station Record and Experiment Station Work. By enlisting the cooperation of the librarian of their institution it should be possible to make an arrangement by which all Government documents received by the library may be examined. The students engaged in this work could prepare for class room use, lists of references to articles which in their judgment are of interest in connection with the Home Economics work. Such a plan is valuable not only for the information it will supply, but also for the training it will afford in the handling of literary material. It has been said that a university education is a success if it accomplishes two things, namely, if it teaches a student to read and to think. Any plan therefore, is to be advocated which will help students to use their libraries as mines from which information can be obtained in quantities proportional to the work involved, and not simply as places in which books suggested by an instructor may be consulted.

FREE OR INEXPENSIVE PAMPHLET LITERATURE.

M. BIRDSEYE.

The following is a list of literature, in leaflet or pamphlet form, recently collected and exhibited by the Press and Literature Committee of the Greater New York Home Economics Association, as likely to be of value to teachers of Home Economics in schools and settlements, and to others interested in the subject. U. S. Government publications are not included in this special list, nor is reference made to experiment station publications, though many bulletins from both sources are distributed free of cost.

Teachers will do well to secure at least a sample of each of the publications noted, for not only do they contain many suggestions which may be incorporated to advantage in an up-to-date course, but they serve to open one's eyes in a most instructive way to the number and variety of channels—public, private, philanthropic, and even commercial—through which information regarding the economics of the home and of the municipality is being literally poured upon the public.

Unless price is explicitly stated, this literature may be had free of charge by applying to the publisher. The list is as follows:

List of Free or Inexpensive Publications.

"Sanitary Code of the Board of Health," New York City, 1908.

"Various Publications on Subject of Tuberculosis." Board of Health, New York City.

"Food and Drug Adulteration—Their Medical and Legal Significance," by Dr. Darlington, New York Health Commissioner, 1908.

"Methods of Dealing with the Milk Supply of New York City," by Dr. Darlington.

"Duty of the Municipality and State in the Prevention of Tuberculosis," by Dr. Darlington, New York City Board of Health, 1906.

"Bureau of Municipal Research Leaflets," New York City. Various topics of interest to citizens and tax-payers.

"Health Hints Leaflets," published by People's University Extension Society, 105 E. 17th St., New York City (English, Jewish, Italian).

"Large Meals for Little Money," by Florence Kendrick Johnson, published by People's University Extension Society, 105 E. 17th St., New York City. (Six cents for settlement classes covers postage).

"Help to Self Help." Report of one year's work of People's University Extension Society, New York City, 1908.

"Approved Methods for Home-Laundering," by Mary Beals Vail. Published by Proctor and Gamble Co., Cincinnati, Ohio.

"From Cellar to Garret." A text book on Household Science. (Contributions from various Domestic Science Teachers). Published by Carbona Products Co., Newark, N. J. 10 cents.

"Individual Recipes in Use at Drexel Institute." Published by John C. Winston Co., Philadelphia, Pa. 25 cents.

"Cornell Reading Courses for Farmers' Wives." Bulletins published by N. Y. State College of Agriculture, Ithaca, N. Y.

Consumers' League Literature. Published by Consumers' League, 105 E. 22d St., New York.

Sanitary "Maxims," in folder or calendar form (English, Italian and Jewish).

"White List of Retail Stores" (pocket folder).

"Suggestions to Cannerymen."

"Circular letter to grocers, etc."

"Score card for Provision Shops."

"The Sweatshop, where tuberculosis breeds."

Consumers' League "Catechism."

Annual Reports.

"Historical Sketch of Pioneer Consumers' League. Five cents.

"The Tenants' Manual." Published by Greenwich House, New York City.

Boston Health Education League Booklets. Published by Health-Education League, 113 Devonshire Street, Boston. Price 2-5 cents each; reduced rates by the hundred.

"Hints for Health in Hot Weather."

"Milk," by Charles Harrington, M.D.

"Colds and their prevention."

"Meat and Drink." By Ellen H. Richards.

"Healthful Homes."

"The Successful Woman." By William R. Woodbury, M.D.

"The Boy and the Cigarette." By H. Sterling Pomeroy, A.M., M.D.

"The Plague of Mosquitoes and Flies."

"Tonics and Stimulants." By Ellen H. Richards.

"The Care of Little Children." By R. W. Hastings, A. M., M.D.

"Emergencies." By Marshall H. Bailey, M.D.

"Microbes Good and Bad." By Anne F. Rogers.

"The Care of Babies." By Gaetano Praino, M.D.

"The Efficient Worker." By Ellen H. Richards.

"Sexual Hygiene." By An Experienced Physician.

AN AMERICAN CONTRIBUTION TO THE HISTORY OF THE PHYSIOLOGY OF DIGESTION*.

Reviewed by ELLEN A. HUNTINGTON,

Professor Elect University of Utah.

Professor Mendel's recent article which forms the basis of this review was excited through the reading of an American monograph, written in 1803, for a doctor's thesis at the University of Pennsylvania Medical College by John R. Young of Maryland and entitled *An Experimental Inquiry into the Principles of Nutrition and the Digestive Processes*.

Professor Mendel commends Dr. Young's work because "in examining the knowledge of digestion then current, he applies the test of experimental evidence obtained at first hand,—a sort of critique less in vogue in his day than in ours."

Professor Mendel then proceeds to review the history of the physiology of digestion which he divides into three periods. The first of these covers the earlier days of science until the publication of Hallers' *Elementia Physiologiae* (1757) when the triumph of "Animal Spirits" and various conceptions of "vital principles" persisted. Into the second period he put Réaumur (1752), Stevens (1777) and Spallanzani (1783) who were putting into practice the method of observation, rather than "obscure ideas" as the basis of their theories of digestion.

The point of view of the men of this period is expressed in the remarks of William Hunter:

"Some physiologists will have it, that the stomach is a mill, others, that it is a fermenting vat, others, again that it is a stew pan; but, in my view of the matter, it is neither a mill, a fermenting vat, nor a stew pan; but a stomach, gentlemen, a stomach."

And the third epoch Professor Mendel believes to coincide with the use of modern chemistry and begins with the discovery of hydrochloric acid in the gastric juice in 1824, which was soon followed by Beaumont's work on the man with a gastric fistula.

*Lafayette B. Mendel. *Popular Science Monthly*, Feb., 1909, Vol. 74, p. 174.

Professor Mendel continues:

"Let us bear in mind, then, that although the presence of a solvent fluid in the stomach had begun to be admitted in 1803, its nature and the mode of its operation were not understood until Beaumont's classic experiments (1833) on 'the man with a lid on his stomach' as—St. Martin was derisively called. Reaumur (1752) experimented on a lizard, administering to it hollow metallic capsules perforated like a sieve and containing foods within. The possibility of mechanical crushing or trituration was thereby excluded; but when the tubes were regurgitated it was found that digestion (solution) of the food materials had nevertheless taken place. Some chemical action must have been exerted; and by placing sponges in metallic tubes, Reaumur was able to express therefrom specimens of gastric juice fluid. He appreciated that it possessed properties antagonistic to putrefaction, and fragmentary as his observations may appear, he introduced a new method into physiological research."

Dr. Young opened his dissertation with a review of the Nutrentia. He criticizes the views of Dr. Cullen who referred "the principal of nutrentia to vegetables; and that they derive this property from their acid, sugar and oil."

Turning to Dr. Young's observations on the processes in the stomach it appears that he assumes he can draw "plausible if not conclusive, inferences concerning our own digestion." He says:

"It would be unnecessary to recite particular experiments to prove the solvent property of the gastric fluid, this being admitted on all hands. . . . The effects of solution are most remarkable in such animals as swallow their food without mastication. . . . [Some experiments on frogs and snakes followed]. The gastric fluid of man and that of frogs and snakes agree perfectly in their action on flesh, as the experiments of Spallanzani prove that the first of these powerfully dissolves meat out of the body. . . . Thus far the digestion of man and these animals perfectly agree, in solution being the first step towards the conversion of food into chyle; but they differ in some particulars, and probably by attending to these they may be of use to us.

"First, they are cold blooded animals. Heat is a powerful agent in all solutions, and the experiments of Spallanzani prove it

greatly assists the action of the gastric liquor out of the stomach. Secondly, they do not masticate their food.

"These two inconveniences are obviated by these animals never drinking when their digestion is going on, so that their fluid acts in its undiluted state; whereas in man, it is always diluted, as he seldom eats without drinking. . . .

"Thus when our stomachs are weak or we are troubled with dyspeptic symptoms, like them we ought to avoid much diluting our gastric juice; so that although it were secreted not perfectly healthy, yet having the advantage of acting in its uncombined state, solution and digestion may go on, when it otherwise would not, with the common quantity of drink. Indeed our stomachs in this respect act a kind part to us; for when we make one first dish in broth it seldom relishes much solid aliment after it; hence soups are the first dish at the table of the temperate and the last at that of the epicure."

Again, Dr. Young turns his attention to the question of fermentation and putrefaction and of the latter he writes: "Chemists divide fermentation into three kinds, the vinous, acetous and putrefactive; the product of the first is vinous spirit, or alcohol; of the second, acetous acid or vinegar; of the third, ammoniae or volative alkali. [Experiments follow] . . . We conclude the vinous fermentation has nothing to do with the digestive process."

Dr. Young's attempt to identify the acid present in the gastric juice is most interesting.

"Though great accuracy and many varied experiments are required to ascertain certainly the presence of an unknown acid, yet we are disposed to believe any person who had witnessed the great similarity in the comparative precipitations just mentioned would have pronounced the same explanation was to be applied to both, or that the acid in the filtered fluid was the phosphoric."

One sentence of Dr. Young's in conclusion, explains his ideas of the digestive function.

"Aliment is dissolved by the gastric menstruum; it then passes into the duodenum and meets with bile and pancreatic liquor; after being united with these, a heterogenous mass is formed called chyme, and from this the lacteals secrete chyle."

Professor Mendel concludes his article with an interesting remark which Dr. Beaumont made when he noted that the vague

ideas of preceding times were in marked contrast with such experimental inquiries as Dr. Young's.

"It is unfortunate for the interests of physiological science that it generally falls to the lot of men of vivid imaginations and great powers of mind to become restive under the restraints of a tedious and routine mode of thinking, and to strike out into bold and original hypotheses to elucidate the operations of nature, or to account for the phenomena that are constantly submitting to their inspection. The process of developing truth, by patient and preserving investigation, experiment and research, is incompatible with unrestrained genius. The drudgery of science is left to humbler and more unpretending laborers. The flight of genius is, however, frequently erratic."

Macdonald Institute, Guelph. The Home Economics Department of Macdonald Institute, Guelph, Ontario, lost two members of the staff at the end of the winter term. Miss Fonda, Assistant Instructor in Sewing, has resigned, and Miss Givin, chief Instructor in Domestic Science, is obliged to give up teaching on account of ill health. Miss Givin has been on the staff since Macdonald Institute opened, and much of the success of the teacher graduates of the Institute has been due to her careful instruction, so that her loss is felt greatly. Miss Jean Roddick, of Coburg, Ontario, will succeed Miss Givin, and Mrs. Doughty, a graduate of Pratt Institute, will succeed Miss Fonda.

The plan inaugurated last September of giving the House-practice work a special headquarters in a room by itself, and placing the house practice and housekeeping practice in charge of a supervisor, has proved most satisfactory. The individual attention rendered possible, and the careful inspection, has greatly improved the training.

Macdonald Institute is a residence school, so registration is limited by the boarding accommodation. The list for the current term has been full since January, and there are not many left in the list for next September. This shows that the demand for home economics training is very great in Canada as well as in the United States.

CARNEGIE NUTRITION LABORATORY.

A photograph of the nutrition research laboratory of the Carnegie Institution of Washington appears as the frontispiece of this number of the JOURNAL. This building was completed early in 1908 and very extensive and important experimental work in problems dealing with human nutrition is now being conducted under the direction of Doctor Francis Gano Benedict, who was formerly associated with the late Professor Atwater in his researches at Middletown, Conn.

The laboratory is located in Boston, Mass., adjoining the magnificent buildings of the Harvard Medical School, and is in close proximity to several hospitals, thereby affording unusual opportunity for observations on pathological metabolism as well as that of normal subjects.

As may be seen from the illustration, the laboratory building is a plain, brick structure of three stories and basement. It is of fireproof construction throughout and is particularly well lighted. Each laboratory room is equipped with hot and cold water, steam, electricity, gas and compressed air.

The most interesting feature is the calorimeter laboratory which is located on the first floor. This is ingeniously constructed to permit of very close temperature and moisture control. A number of respiration calorimeters for experimentation with man are in operation in this room. There is also a special suite of rooms on the third floor for use in metabolism experiments with animals. Ample provision is made for chemical and bacteriological laboratories, a kitchen, offices, a machine shop, photographic room, etc. and a large amount of accessory apparatus has been installed. It is believed that the opportunities for researches of fundamental importance and value are in many ways unequalled either in this country or abroad, and should be productive of results of unusual importance.

A feature of the Carnegie Nutrition Laboratory work will be the study of nutrition problems in relation to pathological conditions. It is not too much to expect that results of the utmost value with reference to food problems in disease, will accumulate rapidly, for the laboratory possesses equipment for studying such problems which has never before been available for

the purpose. In the work which he has published as a part of the nutrition investigations of the Office of Experiment Stations of the Department of Agriculture and that which he has carried on under the auspices of the Carnegie Institution, Doctor Benedict has established a standard of excellence seldom surpassed in scientific research.

**Model Homes
in Newark.**

The Friendly Visitor Conference of the Bureau of Associated Charities of Newark, N. J., is working on the plan of establishing small model homes in neighborhoods of Newark where they seem most needed as object lessons in proper home-keeping. These homes will be furnished in the simplest and least expensive manner, but will be made sanitary, practical and attractive. The aim is to make educational and social centres where home-keeping in all its branches may be taught and standards of living raised through the creation of an atmosphere of interest in helpful and useful pursuits.

Special attention will be given to home economics with the end of achieving adequate nourishment of the family and provision for other things necessary to a wholesome manner of living on a modest regular income.

A committee is now working on a system of dietaries which will be scientifically formed to combine in right proportions the necessary food elements. Cooking lessons will be given by trained teachers. The homes ought also to offer opportunities for the teaching of social hygiene. Mothers will be instructed in matters of child-raising and aroused, where possible, to a sense of their moral duties. The main feature of the work will be that consideration of the family as a whole will be its basis.

Cooking classes and social meetings have already been held at the Neighborhood House on Market street, where the attendance and interest have been very encouraging. The Conference hopes to start four homes this spring, each consisting of a model kitchen, bed room and living room. The estimated cost of each home is \$30 for furnishing and \$20 a month for maintenance. The results which may be obtained through this kind of social work may be studied in New York where four homes have been in existence for seven years and have transformed individual and family lives under the eyes of those supporting and working in them.

EFFECT OF SUGAR AND TEMPERATURE ON FRUIT JUICES*.

JENNY HELEN SNOW.

The object of the following experiments is two-fold:

(a) To disclose what part sugar has in jelly making.

Very little is known by the average housekeeper of the pectic bodies which cause the jelling of fruit. To her, sugar is the essential factor.

(b) To determine whether it is possible to find a temperature or a density at which fruit juices jelly.

The usual laboratory method of determining this point often proves more or less unsatisfactory, especially in the hands of inexperienced workers. The attempt to find a more certain test led to the following experiments. A number of determinations were made of the boiling point and of the density at the boiling point of fruit juice yielding a jelly of different degrees of firmness.

These experiments were made with the juice of three different fruits: apples, plums and currants, and the effect of varying amounts of sugar was studied in each case.

In each case a sample of boiling juice was removed at 104° , 105° , 106° and 107° C, respectively, and the density determined and the quality of the product after cooling noted. The Beaume hydrometer was used for measuring the density.

The table on the following page is a summary of the results obtained.

Experiments Nos. 1, 7 and 11 were of the same consistency and texture. The temperature varied from 104° C to 106° , while the density remained constant at 30.

Experiments Nos. 13 and 18 were of the same consistency and texture. The temperature varied from 105° C to 107° , while the density remained constant at 30.

Experiments Nos. 17 and 21 were of the same consistency and texture. The temperature varied from 106° C to 107° , while the density remained constant at 28.

*A dissertation submitted in 1907 to the faculties of the Graduate Schools of Arts, Literature and Science, University of Chicago, in candidacy for the degree of Master of Science. Department of Household Administration.

TABLE I—RELATION OF AMOUNT OF SUGAR USED TO TEMPERATURE AND DENSITY OF JELLY.

No. of Test.	Fruit used.	Amt. of Juice.	Amt. of Sugar used.	Temperature.	Density of Jelly at boiling point.
				Degrees.	Degrees.
1	Apples	1 cup	1 cup	104	30
2	"	1 "	1 "	105	31
3	"	*1 "	1 "	106	32
4	"	1 "	1 "	107	33
5	"	1 "	$\frac{3}{4}$ "	104 $\frac{1}{2}$	29
6	"	1 "	$\frac{3}{4}$ "	105	29.5
7	"	1 "	$\frac{3}{4}$ "	105	30
8	"	†1 "	$\frac{3}{4}$ "	107	30.5
9	"	1 "	$\frac{3}{4}$ "	104	28
10	"	1 "	$\frac{1}{2}$ "	105	29
11	"	1 "	$\frac{1}{2}$ "	106	30
12	"	†1 "	$\frac{1}{2}$ "	107	31
13	Plums	1 "	1 "	105	30
14	"	1 "	1 "	106	32
15	"	1 "	1 "	107	34
16	"	1 "	$\frac{3}{4}$ "	105	26
17	"	1 "	$\frac{3}{4}$ "	106	28
18	"	1 "	$\frac{3}{4}$ "	107	30
19	"	1 "	$\frac{1}{2}$ "	105	24
20	"	1 "	$\frac{1}{2}$ "	106	26
21	"	1 "	$\frac{1}{2}$ "	107	28
22	Currants	1 "	1 "	105	26
23	"	1 "	1 "	106	28
24	"				
25	"	1 "	$\frac{3}{4}$ "	104	
26	"	1 "	$\frac{3}{4}$ "	105	
27	"	1 "	$\frac{3}{4}$ "	106	
28	"	1 "	$\frac{1}{2}$ "	104	24
29	"	1 "	$\frac{1}{2}$ "	105	25
30	"	1 "	$\frac{1}{2}$ "	106	26

*Syrupy consistency, did not hold form.

†Too stiff.

Experiments Nos. 22 and 30 were of the same consistency and texture. The temperature varied from 105°C to 106° while the density remained constant at 26.

From the above results it seems to be indicated that the density at which a good product may be obtained varies with different fruits, but seems to be nearly uniform for each fruit and not affected by the amount of sugar used.

This density was obtained at a lower temperature and in less time with the larger amount of sugar. The smaller the amount of sugar used, the longer the period of boiling required and the darker the color of the product.

In each case the smaller the amount of sugar, the more pronounced the fruit flavor of the jelly.

The larger amount of sugar used lessened the cost per glass, as shown by the following table:

TABLE II—COST OF JELLIES MADE WITH VARYING AMOUNTS OF SUGAR.

Proportion of sugar to juice.	Cost per $\frac{1}{2}$ pt. glass.			
	Currants.	Grapes.	Apples.	Plums.
	cts.	cts.	cts.	cts.
1:1	11	5	6	10
3:4	13	6	7	11
1:2	22	7	9	12

The currant jelly was made in July, the grape in October, the plum in May and the apple in June. The prices paid for the fruits were: currants, 18c a quart box; grapes, 18c a $\frac{1}{2}$ peck basket; plums, 15c a quart box; and apples, 90c a peck.

It was found that the currants, grapes and plums would jelly without adding sugar, but the product was neither clear nor palatable and the cost in the case of the currants was over a dollar a glass.

The jelly containing the smaller proportion of sugar seemed to keep as well as that containing the larger proportion.

The bulletin, *Sugar as Food*^a, by Mary Hinman Abel, contains the following statement:

"Cooks have often observed that more sugar is necessary in sweetening acid fruits if it is heated with them from the first than if it be added when the cooking is completed. This is because some of the cane sugar, acted on by the heat and acid, has been changed to those other bodies which are less sweet."

Knight^b, says, "ordinary cane sugar is 'inverted,' that is resolved into equal parts of dextrose and levulose, a mixture of glucoses, by boiling with any mineral acid, and since glucose is only about three-fifths as sweet as cane sugar the result is an apparent loss of sweetness."

The above statements led to a discussion of the subject. It was found opinions differed. The question was referred to the Office of Experiment Stations of the U. S. Department of Agriculture, but it was reported that additional data were needed. Accordingly, experimental work was undertaken to see if the

^aU. S. Dept. Agr. Farmer's Bul. 93.

^bFood and its Functions, p. 40.

question could be answered. The following points seemed to be involved:

First, what percentage of cane sugar is inverted by each of the different methods used?

Second, is the invert sugar more or less sweet than cane sugar?

Third, is the difference sufficient to be of any practical account?

1. In these experiments Greening apples were chosen as the fruit, first, because they were most easily obtained on account of the season of the year, and second, because they are a mildly acid fruit. The first series of experiments consisted of the analysis of five different samples of apples. Determinations were made of (1) acidity, (2) of the amount of reducing sugar, (a) in the natural fruit juice, (b) in the juice of apples cooked without sugar, but with cane sugar added immediately at the close of the boiling process, (c) in the juice of the apples cooked with cane sugar.

The sugar determinations were made partly by the volumetric and partly by the gravimetric process, using the official methods^a.

The samples taken were a mixture of the pulp from four different apples, in order to assure uniformity. In (a) the pulp was mortared, diluted, filtered and after being made up to a known quantity, tested for invert sugar and acidity. In (b) and (c) the pulp, after being cooked, was treated the same as in (a).

These results are tabulated on the next page.

To secure data as to the comparative sweetness of cane and invert sugar, equal amounts, by weight, of chemically pure cane sugar, dextrose and levulose were dissolved in equal amounts of water, and the solutions carefully tasted by four different people. Equal amounts of the dextrose and levulose solution were then mixed and the sweetness compared with an equal measure of the first solutions. The result was as follows, taking cane sugar as the standard:

Dextrose, much less sweet than cane sugar.

Levulose, sweeter than cane sugar.

Mixture of equal parts of levulose and dextrose, less sweet than cane sugar.

The third experiment consisted in cooking larger amounts of apples with the sugar added respectively before and after boiling.

^aU. S. Dept. Agr. Bul. Chem. 65.

TABLE III—ACIDITY AND REDUCING SUGARS IN COOKED APPLES.

Process.	Wt. used.	Acidity (in terms of N/10 sulphuric acid.)	Reducing sugar.	For 100 Gms. apples.	
				Acidity.	Reducing sugar.
SERIES I	Grms.		Grms.		Grms.
(a) Fresh fruit. No sugar added	25.17	21.234	2.527	84.36	10.036
(b) Fruit boiled with water, 55 min. 2.5 gr. cane sugar added after boiling	25.4	21.331	3.4246	83.96 0	13.44
(c) Fruit boiled with water and 2.5 gr. cane sugar for 55 min.	25.4	19.84	3.419	78.11	13.45
SERIES II					
(a) Fresh fruit no sugar added	25.	16.36	1.57	65.44	6.28
(b) Fruit boiled with water, 45 min. 5 gr. cane sugar added after boiling	25.	16.05	2.0978	64.2	8.3912
(c) Fruit boiled with water, and 5 gr. sugar for 45 min.	25.	16.	3.757	64.	15.028
SERIES III					
(a) Fresh fruit. No sugar added	25.	23.09	1.631	92.36	6.524
(b) Fruit boiled 45 min. 12.5 gr. sugar added after boiling	25.	22.523	2.952		11.808
(c) Fruit boiled with water and 12.5 gr. sugar	25.	21.959	7.07		28.28
SERIES IV					
(a) Fresh fruit no sugar added	25.	22.5	2.365	90	9.46
(b) Fruit boiled with water 80 min. 12.5 gr. sugar added after boiling	25	23.12	3.453	92.48	13.812
(c) Fruit boiled with water and 12.5 gr. sugar for 80 min	25	23.72	8.064	94.88	32.256
SERIES V^a					
(a) Fresh fruit juice	10		.849		
(b) Fruit juice diluted and boiled 30 min. 6 gr. sugar added after boiling	10		.958		
(c) Fruit juice diluted boiled with 6 gr. sugar 30 min	10		2.195		

^aIn this experiment the juice of the fruit was expressed and used instead of the whole fruit. The sugar was determined gravimetrically.

Equal amounts of fruit were used, and the same weight of sugar added to each, in No. 1 at the beginning, in No. 2, at the end of the cooking process. Out of six different people tasting, four considered No. 2 sweeter, and two considered No. 1 sweeter, but all agreed that the difference was so slight as to be determined with difficulty.

A repetition of the experiments with plums gave a similar result.

The results above seem to indicate:

First, that the cane sugar added to apples before cooking and boiled with them, is largely inverted, experiment No. 1 alone failing to give this result.

Second, when the cane sugar is added at the close of the cooking process, it is only slightly inverted.

Third, invert sugar is less sweet than cane sugar.

Fourth, the difference in sweetness between stewed apples when the sugar has been added before and after cooking respectively is so slight as to be of little practical consequence.

Fifth, the experiments with one exception show that the acidity is less in apples cooked in water either with or without sugar than in uncooked fruit.

These investigations form a part of work undertaken at the School of Education of the University of Chicago in cooperation with the Nutrition Investigations of the Office of Experiment Stations of the U. S. Department of Agriculture. A brief note on the results obtained appeared in the Report of the Office of Experiment Stations for 1907^a. The present report represents the results of a preliminary investigation. Additional work which is now in progress may modify the conclusions to some extent.

^aU. S. Dept. Agr., Office of Experiment Stations Annual Report 1907, p. 29.

[NOTE.—After this paper was in type the author's attention was directed to the interesting account of investigations of similar problems by N. E. Goldthwaite, of the Department of Household Science of the University of Illinois, which appeared in the June number of the *Journal of Industrial and Engineering Chemistry*, 1 (1909), p. 333.]

AN ABUSE IN THE DISTRIBUTION OF FOOD STUFFS.

By MIRIAM BIRDSEYE,

New York City.

Each year the approach of summer initiates an abuse in the distribution of food stuffs with which the public is too familiar to be concerned. The Pure Food Law, after years of struggle on the part of an ever-increasing body of believers, has become a force that must be reckoned with by all manufacturers and dealers in food stuffs and we are complacently resting on our laurels. We do not realize that another reform of almost equal magnitude is calling for our best efforts.

With the first warm days, the green grocer begins to move his less perishable fruits and vegetables out upon the sidewalk, where according to his ability, he arranges a display designed to attract the custom of the casual purchaser, as well as to convince his regular patrons that his selection is not inferior to that of his competitors. Marketmen prepare this display at a considerable sacrifice of time and money, for not only is their stock likely to be damaged in the early spring by some sudden change of weather, but in summer it slowly and surely deteriorates under the combined action of the sun and the sultry breezes.

From the point of view of the purchaser, certain, at least, of the fruits and vegetables so exposed for sale are absolutely contaminated. Berries and grapes, lettuce, watercress, etc., are eaten raw, without being sterilized by the action of heat, and it is impossible to wash them so thoroughly that we can be sure they are absolutely free from a dilute solution of the street-dirt they have gathered. The skins of many fruits and the pods of string and lima beans are minutely downy or hairy, and these tiny hairs catch invisible particles of dust and hold them in spite of the most careful washing. String beans, to be sure are never eaten raw, but one does not relish the thought of partaking of an unnecessary quantity of dirt, even though it be sterilized. On some sidewalk fruit stands one sees cracked and shelled nuts ready for sale, the crevices and intricate convolutions affording the best possible hiding places for dust. In the majority of shops, too, dried fruits like dates and figs, though kept inside on

the counters, are habitually left uncovered and may gather the dust of weeks, before some purchaser appears.

If a resident of New York or of any other large city will consider the amount of dust which gathers on her polished table tops in twenty-four hours; if she will remember how many times she must wash her hands during the day to keep them even moderately presentable; if she will think of the city streets, with their unspeakable slime on wet days, and their layer of dirt in dry weather agitated by the wind, the street cleaner and the brooms of housemaid and marketman, whose virtuous clouds of dust she dodges every morning on her way to school or business; if she recalls the ugly spots on the pavement left by the free and easy citizen who disregards the imperious "Don't Spit" of the Health Department; if she will pause to mediate upon the flies, swarming to bestow their attentions impartially upon decaying refuse in the garbage-pail and the grocer's fresh fruit, so temptingly laid out next door; if, I say, to these observations she will add a little reading on the subject of germs and germ-carried diseases, she will certainly take the next opportunity to plead with her dealer to keep his wares under cover. And he will reply, respectfully but firmly, as my grocer replied to me when I described to him the feelings with which I viewed his berries exposed upon a Third Avenue sidewalk:

"I know that what you say is all true, and I wouldn't like myself, to eat berries that have been out in the dust all day,—and besides, we lose a lot of stock by drying up. I'd be glad enough to keep them inside, but what can I do? If customers don't see things right under their noses, they think they haven't any selection at all, and competition is too keen here on Third Avenue to risk losing trade."

And so, when I passed his shop later in the day, though the gas mains were being repaired, and for the space of a dozen yards around his corner the dirt was piled up five feet high; though a young hurricane was blowing and clouds of Third Avenue dust were filling the air, I saw his sidewalk display in its accustomed place headed by some dozen boxes of discouraged looking strawberries, whose forlorn and wilted condition testified that they had stood their ground courageously since early morning.

The Health Department of New York City officially recognizes the danger of the contamination of certain food stuffs by exposure

to the city air. Section 46 of the Sanitary Code reads as follows:

"No breadstuffs, cake, pastry, dried or preserved fruits, candies or confectionery shall be kept, sold or offered for sale outside of a building in the City of New York, or in any street or public place, unless they be kept properly covered so that they shall be protected from dust and dirt."

In accordance with this regulation the "ambulant vendors" of such wares have been obliged to supply their carts with glass covers,—which they carefully fold back during rush hours, in order not to obstruct the view of their stock-in-trade. Evidently the demand is good, and the policeman on the beat indifferent, as for every candy push-cart properly covered, one may count twenty-five or more wide open to the winds of heaven and to the seeds of contagion which those winds bear upon their wings. Some of these vendors seem to recognize that a layer of dust upon their wares is likely to discourage the more fastidious of their customers, and so they keep a time-honored feather duster—one I saw in use was made of turkey feathers and must have been at least ten years old—tucked away behind the wheels to freshen up their stock. In the lower and more crowded districts of the city one may see the law still more openly violated, and rolls and chocolates being sold from open carts and stands with no pretense whatever of protection from the dust. Every now and then, of course, orders are issued from headquarters for a raid and the strong arm of the law sweeps a few hundred push-cart men into the courts, but for the most part they are left to use their folding covers as they please, and the crowds of working women and children, streaming along the sidewalks morning and night, purchase and swallow down these dust-laden delicacies together with their dangerous freight. If the system of policing which nature has set up within the body for the arrest and detention of invaders were not far more effective than any we have as yet been able to develop in our cities, doubtless there would be more sickness than there is now as a result of eating food contaminated by city dust.

Another dangerous custom, at present apparently permitted by law, is the sale from open carts and stands of melons and pine-apples by the slice. In some parts of the city it is no unusual sight to see a cart supplied with a goodly stock of these slices,

which the thrifty dealer has prepared beforehand to tempt the appetite of the office-boy or the school-child during his brief luncheon-period. Fancy can scarcely outdistance fact in picturing the condition of these moist and succulent dainties after they have been exposed for half an hour on a dusty, windy thoroughfare.

Granting, as every thoughtful and well informed person must, that such conditions in the distribution of food are a menace to the health, and thus to the welfare of the community, how may we most effectively secure their abolition?

At first sight, nothing seems easier. Here is a pure food campaign in which we do not need the services of the expert chemist or microscopist to determine for us the exact nature of the harmful adulterant. With that adulterant we are all too well acquainted, we know its possible harmful effects upon the system, and we can see with our own eyes the manner of its incorporation into the food stuff. We do not need extensive legislation—a few terse sentences of a city ordinance, rigidly enforced, would solve the problem completely. The difficulty lies, not in making the law, but in enforcing it. What we need behind such an ordinance to make it effective is public opinion—the opinion of the housekeeper with money for the day's marketing in her pocket, who is, in the last analysis, the employee of the green-grocer; the opinion of the child on his way to school or to work, who is, at the bottom, the one really responsible for the push-cart man's violation of the Sanitary Code. To form public opinion is a long, tedious process, often a discouraging one, but continued planting of a good seed, together with watchful watering and pruning, cannot but result at last in a satisfactory crop. In a day when the child-student of cooking confidently shouts out "germs" in answer to every question whose drift she does not quite catch, who can say that the ground is not well broken, and that the teacher and the woman's club need do much more than make the application and persistently drive it home?

Beginnings have already been made by both these agencies. In the "discussion-paper" appended to the bulletin on Bacteriology of the Household, issued in February 1909 by the New York State College of Agriculture, and intended to be circulated throughout its admirable system of Reading Clubs for Farmers' Wives, we find the following as the first question:

"The exposure to dust in open store windows and in wagons of fruit and vegetables to be used on the table is dangerous because the products collect on their surfaces germs which may be communicated to the consumer. Would it not encourage care on the part of the seller if housewives combined to object to purchase such provisions? Discuss."

This is a pertinent suggestion. The *concerted* demand of the consumer, backed by his capital, small in the case of the individual but tremendous in the aggregate, has absolute power to dictate selling conditions—nay, even the conditions of manufacture.

The Food Committee of the Consumers' League of New York City has gone into the campaign against unclean methods of retailing foodstuffs with vigor and initiative, and has published literature which will materially assist the teacher in bringing the question of food-contamination forcibly before her class. In three languages—English, Italian, and Yiddish—it publishes in folder and in calendar form its Sanitary Maxims. The calendar is headed by a picture in colors, and is suitable for hanging on the wall of kitchen or living-room. The Maxims set forth in terse sentences and with the authority which print carries with it, especially in the eyes of children, just what one should expect of one's provision dealer in the matter of keeping his goods off the street, properly covered, protected from flies, in clean utensils, handled by clerks in cleanly costume and with clean hands and nails, together with succinct directions for selecting fresh meats, fish, fowl and milk. This literature is sent free of charge in any reasonable quantity to those who can make good use of it, and the folders make a most practical addition to a child's cooking note-book. Besides the Maxims, the Committee publishes also a Circular Letter to Grocers, which quotes the provisions of the Sanitary Code relative to the improper exposure of foodstuffs, explains the danger caused by dirt and flies, defines a model market, and asks for co-operation in setting "a high standard of Sanitation and Cleanliness in the handling and sale of food." This publication may be had also by applying to the Food Committee at the offices of the City League, 105 E. 22d Street, New York. Several local associations of retail grocers, notably in the better parts of the city, have endorsed the Letter and adopted its recommendations wherever these required a change

in store administration. A tremendous amount, however, still remains to be accomplished by individual effort. Members of the Committee, armed with the literature as described above, take a section—a certain number of blocks along some avenue near their homes—and sally forth to visit the provision stores, explain the object of the committee, and induce the cleanest and most progressive dealer to set the fashion of a raised standard, assuring him that his efforts will be rewarded by increased custom. This method of personal investigation has proved remarkably successful, and were it to be supplemented, as it could more easily be in almost any other city than in New York, by concerted action among the housewives in that section, results would be surprisingly quick to follow.

A plan which has worked well in a school of my acquaintance is to get the girls in the cooking classes thoroughly interested, furnish them with literature, and set them, with the aid of their mothers, to investigating the conditions of food-distribution in their own neighborhoods. Quite apart from the results accomplished in the improvement of the provision-shops, the new interest with which the children observe neighborhood conditions is striking, and cannot but help to make them better members of the community, as well as more thoughtful spenders. If, in addition, some sort of an organization be formed—a school chapter, for example, of the City Consumers' League, a tremendous vogue will be given to the movement, and meetings may be planned at which good speakers shall talk to the members and their friends on pure foods, home sanitation, civic hygiene, and other Home Economics themes. The children will look up the regulations of the local health board and report violations, the secretary sending a complaint to the proper authorities in the name of the School Chapter. In high schools, where the students are sufficiently mature, interest may be guided towards the other objects of the Consumers' League—improving the condition of women and children employed in retail stores, child-labor legislation, factory and tenement house inspection, and the movement to abolish the sweat shop with its attendant evils of the distribution of infection and the depression of the standard of wages. Surely, Home Economics broadly conceived involves a recognition of the fact that the woman to whom is intrusted the spending of the family income can and does profoundly influence economic and

industrial conditions for good or evil. Children in the high school are not too young to learn this lesson; and to my mind, among the many lessons which the science of the home has to teach, there is none greater than this—stamped upon young minds at their most impressionable period—of social responsibility and of social service.

We seem to have wandered far afield from our dusty fruits and our uncovered candies. Not so. The experiment in Home Economics outlined above has been successfully tried, and the young citizens who go out from that school go not only with information on the subject of "germs" to keep them from patronizing the push-cart, but with the sense of social responsibility which will help form that sound public opinion needed behind every law, whether it aim to promote physical or moral well-being, before it can accomplish fully the good for which it was intended.

The Cost of Cleanness, Mrs. Ellen H. Richards. John Wiley & Sons New York City. \$1.00.

Mrs. Richards' last book, *The Cost of Cleanness*, has called out many favorable press notices. The following sentences are taken from a column article in the *New York Times Saturday Review of Books*, January 9th, under the title, *The Cost and Economy of Banishing Dirt*. "In this volume Mrs. Richards works out the cost of being clean in person, house, food, and city, and compares it with the demonstrated cost of ignoring dirt in any or all of those particulars.

"The author makes a rough estimate that in the United States there are wasted each year \$500,000,000 in unnecessary sickness due to unclean ways, besides the loss in earning capacity due to lessened efficiency where there has been no actual illness. This loss in efficiency due to unclean air, unclean food, and low ideals of personal and municipal cleanliness, she insists upon as one of the most important factors of the question. Mrs. Richard's book is concise and condensed to the point of bluntness. Each sentence is a bullet for compactness and energy of propulsion."

FLIES AND TYPHOID FEVER,—MEASURES FOR DOING AWAY WITH THESE PESTS.

In a bulletin of the Department of Agriculture which has just been published, entitled *Economic Loss to the People of the United States Through Insects that Carry Disease*^a, Dr. L. O. Howard, Chief of the Bureau of Entomology, has summed up and discusses some of his own valuable researches together with the work of other investigators. Mosquitoes and their relation to yellow fever and malaria, the "typhoid fly commonly known as the house fly," and endemic diseases as affecting the progress of nations, are the questions which Dr. Howard considers. The United States he believes, "is just awakening to a knowledge of the disastrous results following a lack of appreciation of the danger arising from the unchecked development of mosquitoes and the typhoid fly, and it is hoped that this bulletin will not only emphasize this danger, but will also lend support to movements, both local and widespread, toward the destruction (often so easy) of these carriers of disease."

The bulletin is of great value as well as interest. In view of the importance of spreading information regarding the great household pest,—the fly—it seems desirable to quote extensively from Dr. Howard's most useful treatise:

"The typhoid or house fly is a general and common carrier of pathogenic bacteria. It may carry typhoid fever, Asiatic cholera, dysentery, cholera morbus, and other intestinal diseases; it may carry the bacilli of tuberculosis and certain eye diseases; it is everywhere present, and it is disposed of with comparative ease. It is the duty of every individual to guard so far as possible against the occurrence of flies upon his premises. It is the duty of every community, through its board of health, to spend money in the warfare against this enemy of mankind. This duty is as pronounced as though the community were attacked by bands of ravenous wolves.

"As a matter of fact, large sums of money are spent annually in the protection of property in the United States. Large sums of money are spent also in health matters; but the expenditure for protection from flies is very small and is misdirected."

^aU. S. Dept. Agr. Bur. Ent. Bull. 78.

"The danger of the typhoid or house fly in the carriage of disease has thus been abundantly demonstrated. Further than this, it is an intolerable nuisance. With mosquitoes it necessitates an annual outlay for window and door screens in the United States of not less than ten millions of dollars. As a carrier of disease it causes a loss of many millions of dollars annually.

"As an agency in the spread of other intestinal diseases, this sum must be greatly increased, and yet it is allowed to breed unrestricted all over the United States; it is allowed to enter freely the houses of the great majority of our people; it is allowed to spread bacteria freely over our food supplies in the markets and in the kitchen and dining rooms of private houses, and, to use the phraseology of Dr. Theobald Smith, when we go into public restaurants in midsummer we are compelled to fight for our food with the myriads of house flies which we find there alert, persistent and invincible.

"Even if the typhoid or house fly were a creature difficult to destroy, the general failure on the part of communities to make any efforts whatever to reduce its numbers could properly be termed criminal neglect; but since, as will be shown, it is comparatively an easy matter to do away with the plague of flies, this neglect becomes an evidence of ignorance or of a carelessness in regard to disease-producing filth which to the informed mind constitutes a serious blot on civilized methods of life.

"If we allow the accumulation of filth we will have house flies, and if we do not allow it to accumulate we will have no house flies. With the careful collection of garbage in cans and the removal of the contents at more frequent intervals than 10 days, and with the proper regulation of abattoirs, and more particularly with the proper regulation of stables in which horses are kept, the typhoid fly will become a rare species. It will not be necessary to treat horse manure with chlorid of lime or with kerosene or with a solution of Paris green or arsenate of lead, if stable men are required to place the manure daily in a properly covered receptacle and if it is carried away once a week."

The orders of the health department of the District of Columbia if carried out would be very effective in any community for doing away with or greatly diminishing these dangerous insects. These orders Dr. Howard has briefly condensed as follows:

"All stalls in which animals are kept shall have the surface of the ground covered with a water-tight floor. Every person occupying a building where domestic animals are kept shall maintain, in connection therewith, a bin or pit for the reception of manure, and pending the removal from the premises of the manure from the animal or animals shall place such manure in said bin or pit. This bin shall be so constructed as to exclude rain water, and shall in all other respects be water-tight, except as it may be connected with the public sewer. It shall be provided with a suitable cover and constructed so as to prevent the ingress and egress of flies. No person owning a stable shall keep any manure or permit any manure to be kept in or upon any portion of the premises other than the bin or pit described, nor shall he allow any such bin or pit to be overfilled or needlessly uncovered. Horse manure may be kept tightly rammed into well-covered barrels for the purpose of removal in such barrels. Every person keeping manure in any of the more densely populated parts of the District shall cause all such manure to be removed from the premises at least twice every week between June 1 and October 31, and at least once every week between November 1 and May 31 of the following year. No person shall remove or transport any manure over any public highway in any of the more densely populated parts of the District except in a tight vehicle, which, if not inclosed, must be effectually covered with canvas, so as to prevent the manure from being dropped. No person shall deposit manure removed from the bins or pits within any of the more densely populated parts of the District without a permit from the health officer. Any person violating any of these provisions shall, upon conviction thereof, be punished by a fine of not more than \$40 for each offense.

"In addition to this excellent ordinance, others have been issued from the health department of the District of Columbia which provide against the contamination of exposed food by flies and by dust. The ordinances are excellently worded so as to cover all possible cases. They provide for the registration of all stores, markets, cafes, lunch rooms, or of any other place where food or beverage is manufactured or prepared for sale, stored for sale, offered for sale, or sold, in order to facilitate inspection and still more recent ordinances provide for the registration of stables. An excellent campaign was begun during the summer of 1908

against insanitary lunch rooms and restaurants. A number of cases were prosecuted, but conviction was found to be difficult."

For one reason or another, Dr. Howard states, the chief one being the lack of a sufficient force of inspectors under the control of the health officers, the ordinance in regard to stables has not been carried out in the District of Columbia with that perfection which the situation demands. In the summer of 1896, the health officer of the District, designated a region in Washington which was to be watched by men connected with the Bureau of Entomology. Twenty-four stables were located in this region and were visited weekly by two assistants chosen for the purpose. "The result was that on the whole the manure was well looked after and the number of flies in the region in question was very considerably reduced during the time of inspection."

As regards the cost of such sanitary work in cities and towns the following figures for the District of Columbia inspection are of interest.

"Were simple inspection of stables all that is needed, a force of four inspectors, specially detailed for this work, could cover the District of Columbia, examining every stable, after they were once located and mapped, once a week. The average salary of an inspector is \$1,147, so that the total expense for the first year would be something like \$4,500. But the inspectors' service is complicated by the matter of prosecution. Much of the time of inspectors would be taken in the prosecution of the owners of neglected premises. Moreover, the health officer has found during the summer of 1908, in his prosecution of the owners or managers of insanitary restaurants, that his inspectors were practically sworn out of court by the multiplicity of opposing evidence. This means that it will be necessary in such cases to send two inspectors together in all cases, so that the testimony of one may be supported by the testimony of the other. This, perhaps, would double the number of necessary inspectors, making the expense of the service something over \$9,000. It is reasonably safe to state, however, that with such an expense for competent service, or perhaps with a slightly added expense, the typhoid fly could be largely eliminated as an element in the transfer of disease in the District of Columbia, and the difficulty which the authorities have had in locating the cause of a very considerable proportion of the cases of typhoid in the District

for the past two or three years indicates plainly to the mind of the writer that the typhoid fly is a much more important element than has been supposed. It is a comforting although comparatively insignificant fact and a matter of common observation that in certain sections of the city the typhoid fly has been much less numerous during the past summer than in previous years. The writer is inclined to attribute this to the gradual disappearance of horse stables in such sections, brought about by the rapidly increasing use of motor vehicles."

In the campaign against flies the Department of Agriculture has been active for the past ten years or more.

In 1900 the Bureau of Entomology published a Farmers' Bulletin^a entitled, *How Insects Affect Health in Rural Districts*, and up to the present time 192,000 copies of this bulletin have been distributed among the people.

"Moreover, a number of years ago a circular^b was published on the subject of the house fly, calling attention to its dangers and giving instructions such as are covered in a general way in this article, and some 18,000 copies of this circular have also been distributed. This is an indication that the General Government is by no means blind to the people's needs in such matters as we have under consideration, but further work should be done."

That the English Government is awaking to the same need is shown by the fact that, in the parliamentary vote of the present year in aid of scientific investigations concerning disease, one of the projects supported by the General Government was an investigation on flies as carriers of disease.

In view of all the facts it seems as if every thinking person must agree with Dr. Howard's conclusion that: "As for the typhoid fly, that a creature born in indescribable filth and absolutely swarming with disease germs should practically be invited to multiply unchecked, even in great centers of population, is surely nothing less than criminal."

The following quotation from a recent bulletin of the Buffalo Board of Health is of interest in connection with the above discussion.

^aU. S. Dept. Agriculture, Farmers' Bull. No. 155.

^bU. S. Dept. Agriculture, Bureau of Entomology, Circ. No. 35. This was issued in 1891, and afterwards reissued in revised form as Circular No. 71

"Flies thrive on filth. Make it impossible for the fly to exist, by keeping everything in and about your premises clean. The larvæ of the house fly live only in stable manure, excrement and garbage. If you remove the opportunity for propagation the fly must eventually become extinct.

"Remove every particle of filth, dirt, accumulations of all decayed or useless material in and about your premises.

"Do not allow any refuse matter to accumulate.

"Burn all table refuse.

"Keep cuspidors clean.

"Place your garbage in a can with a tight cover. Every time the can is emptied, sprinkle it with oil, lime or other disinfectant.

"Screen your doors and windows.

"Keep all stable manure in a covered receptacle, and clean it out frequently.

"Flies breed in manure, excrement, garbage and dirt. If you deprive the insect of breeding places there will soon be no flies.

"Screen or cover all food, whether it is on your table or other places in your home, or whether it is exposed for sale in a store or market.

"Burn pyrethrum powder in the house. It will kill most of the flies and stun the others, so that they may be swept up and burned."

Town and City. The Gulick Hygiene Series, Frances G. Jewett, pp. 270, illustrated. Boston: Ginn & Co. Price \$.60.

A reader for school children which presents the subject of municipal sanitation briefly but so vividly that much of it will be remembered. The chapters on Garbage, Preventable Disease, Discovery of Disease Germs, and Safeguards against Epidemics, are capital. Lecturers to popular audiences will find its style most suggestive, and its matter very quotable. —Mary Urie Watson.

THE FACTORS OF COST OF BOARD ON MINNESOTA FARM HOMES.

Those who have read the paper on The Factors of Cost of Board on Minnesota Farm Homes by Thomas P. Cooper in the first number of this JOURNAL will be interested to see the bulletin just published by the United States Department of Agriculture of which he is joint author with Edward C. Parker, entitled, The Cost of Producing Minnesota Farm Products, 1902-1907^a. Such studies as are here reported are fundamental to the adequate discussion of economic questions relating to rural life and welfare, and also supply data of value in the discussion of similar problems in town and city homes where little or nothing is produced but where practically everything is purchased.

The bulk of the report is taken up with the discussion of data regarding the cost of producing different farm crops, the cost of farm labor, statistics regarding cost of production and care of live stock, and similar matters. Those portions of the summary which have to do with the average wages on farms, cost of farm board, and the length of a farmers' working day are quoted below. It is to be regretted that the authors were not able to collect data for the discussion of the relative amount of labor performed by the farmer's wife, the length of woman's working day on the farm and similar questions.

"For the years 1904-1907, the average monthly wages paid farm laborers during the eight 'crop-season' months, April 1 to November 30, were approximately as follows: Northfield (1905-1907), \$26.16; Marshall, \$26.64; Halstad, \$25.56; and the large farm in northwestern Minnesota, \$26.77. During the months of December, January, February and March the average monthly wage at Northfield was \$15.80; Marshall, \$14.20; Halstad, \$11.69; and the large farm in northwestern Minnesota, \$14.36.

"The cost of farm board per month for one laborer, averaged for the three years 1905-1907, amounted to \$14.36 at Northfield, \$12.73 at Marshall, \$11.58 at Halstad, and \$10.02 on the large grain farm in northwestern Minnesota. The average cost per

^aU. S. Dept. Agr. Bur. Statistics, Bull. 73.

day was 47.9 cents at Northfield, 42.4 cents at Marshall, 38. cents at Halstad, and 33.4 cents for the large farm in northwestern Minnesota; the average cost of board per month on all farms was \$12. 65 and per day 42 cents.

"The average cash value per hour of farm labor on all farms, for the three years 1905-1907, is 11.2 cents for December, January, February and March, and 12.7 cents for the 'crop-season' months, April to November, inclusive. While wages are lower in the winter months, the number of hours worked by the laborers is much less than in the summer—thus there is little difference between summer and winter in the cost per hour for farm labor. This cost is based upon the wages paid to men plus the cost for board.

"The average length of the working day for men on the farms at Northfield, southeastern Minnesota, is 8.94 hours, with 3.64 hours for Sunday work. At Marshall, in southwestern Minnesota, 8.66 hours for the week days and 3.05 hours for Sundays; and at Halstad, in northwestern Minnesota, 8.10 hours for the week days and 2.76 hours for Sundays."

**Higher Education
of Women in
Home Economics
in England.**

An important meeting was held early in May in London at Grosvenor House for the furtherance of the higher education of women in home science and economics in connection with the courses recently established at the Women's Department of King's College, London. Sir Arthur Rücker, F.R.S., presided, and there was a large and influential attendance, including the Princess Louise and the Duke of Argyll, the Duchess of Hamilton, Mrs. Birrell, Mr. Chapman, (Chairman of the Surrey Education Committee), Miss Faithfull, (Cheltenham), Mrs. Homan (Association of Domestic Science Teachers), the Principal of University of London, the Principal of King's College, and Dr. Bovey, (Imperial College of Technology.) Brief addresses were made by the Earl of Lytton, the Hon. Mrs. Alfred Lyttleton, Mr. H. J. Mackinder, the Bishop of Kensington, and Miss Alice Ravenhill. Miss Ravenhill expressed the opinion that the seed for the new enterprise had been sown by the schools for the training of domestic science teachers and aided by the experience gained by these teachers in the elementary schools of the country. It was announced that donations for carrying on the work had been made amounting to \$5,000 and that the Surrey County Council had pledged itself to maintain four scholarships.

BETTERING OF TASTE IN DRESS AND HOUSE FURNISHING THROUGH DOMESTIC ART.

LANA BISHOP.

Technical High School, Cleveland, Ohio.

How to influence for good taste in dress and house furnishing is a great problem. Domestic art is a wide field and we ask ourselves frequently: Are we, with all our care in trying to base our training on correct principles, selecting those things which are most vital for making the girls as they grow to young womanhood, efficient thinkers and workers as homemakers and good citizens?

Each girl, whether she is to enter the industrial field or become the head of a home, should receive such training as will enable her to meet and solve intelligently the problems which will come to her from time to time, not only from the practical standpoint, but from the economic and artistic side as well.

Good taste in dress is the faculty of being able to select and combine such materials, and to so adjust them to the figure, as to produce a perfect harmony.

Common sense should overrule the aspirant to successful dressing. Fashion often leads us far astray from the path of refined taste, and the prevailing shapes and colors must be modified according to the individual style and personality of the wearer or the results will be unsatisfactory to herself and to the friends whom she wishes to please. We are told that Queen Alexandra of England, is the best dressed woman of today, and why? She has made a study of what is most becoming to her as an individual, and no matter what is fashionable, she chooses that which is adaptable to her particular style.

Our best designers of gowns find most inspiring examples of color and designs for costumes, in the world's great picture galleries, where priceless portraits painted by old masters are hung.

Since our comfort and piece of mind depend largely upon our surroundings, the home should be a haven or rest. The old idea was that a beautiful home must necessarily be expensive and elaborate, but we now agree with the Japanese in his ideas of what is good in household art, and have learned to appreciate true beauty in simple things.

In the study of house decorations, as well as in the study of dress, we take into consideration the fitness to purpose, simple line, color combinations and appropriate materials. Each room in the house should receive careful thought, making the whole a harmonious color scheme.

Quoting from an article recently written: "In the matter of furnishing we ought to bear in mind that upon utility must all idea of decoration and ornament finally rest, and that an overdressed house, is, were that possible, in worse taste than an overdressed woman."

How can we, through domestic art, help the girls to appreciate all this? Begin early—with the very young children, working out simple problems, regulating the work according to the age, and gradually cover all the general principles, opening to the girls, step by step as they grow older, that side of life which rightfully belongs to them. Give them the history of textiles from the prehistoric ages, the time of the origin of tools to the present system of factories, where thousands of yards of materials are made daily; show them how to sew from the coarse stitches on canvas to the finest of French embroidery; teach them how to buy by making them familiar with all kinds of fabrics; help them to appreciate good design through their study of color, line and form and their application to materials.

The grace that comes from a mind trained to appreciate real beauty in simple things is what all women should secure. A woman who has secured this is a success both in the home and in society.

A great deal of attention should be given to the girl who is to become one of the great army of industrial workers. According to recent reports, there are 6,000,000 women in the United States who are gainfully employed. We find that in 72 of the 78 cities having 50,000 inhabitants, more than one-third of the girls between 16 and 20 years of age are at work. In 36 of these cities more than one-half are earning their living, and in 8 the rate rises as high as 69% and even 77% of the total number of girls. Nearly all occupations are open to them, and many industries which require skilled labor depend upon women for their finest workmanship. Although among this army of young women workers we find many trained for their various lines, a large majority are in the unskilled class and perhaps have begun as

cash girls or errand girls when only fourteen years of age. If a girl is unusually bright, she may rise to a good position, but in many cases the wage continues low in the scale and the results are sometimes serious. The young mind is susceptible to all sorts of temptations, her taste is undeveloped and her judgment is crude. Her desire to dress as other people do, leads her to buy beyond what she can afford, or to select inappropriate materials far removed from the artistic lines a person of more mature or trained mind would choose.

Employers are calling for trained workers in dressmaking, millinery and power-machine operating trades, and other skilled occupations for women, but the number ready to respond is small.

The apparent need for a place where girls could receive such training led to the establishment of the Boston Trade School for Girls in 1904. Two years previous the Manhattan Trade School in New York was started and it had grown to be very strong in its work—a model well worth copying. In the main the two schools are much the same, but owing to some differences in trade requirements of the two cities, certain lines are emphasized more in one than in the other.

The funds were raised by private subscription, a residence was rented and equipped, and the school opened with 14 girls which number increased to 50 before the end of the first year. As funds would permit, more space in the way of an adjoining residence has been added, and now this busy workshop accommodates 170 girls while more wait an opportunity to enter.

The school has proven its worth over and over again. It is impossible to estimate its value to the pupil or to the employer. At first employment was sought for the girls, now they cannot be trained fast enough to meet the demand. As the girls go out into the trade, an influence for better physical, moral and economic conditions among the industrial workers is gradually making itself felt, and life to the girls themselves is much happier for their having had a training at the trade school.

Our work in Domestic Art must be broad, dealing with all phases of the subject, influencing for better conditions in all places and teaching the girls how to live in their particular environment.

TEXTILE STUDY IN ROCHESTER ELEMENTARY SCHOOLS.

KATHARINE FRENCH STEIGER,

Supervisor of Domestic Art, Public Schools, Rochester, N. Y.

The subject of Domestic Art in the school has become a many-sided one. In conjunction with domestic science, household management and the trade school it is assuming a place of vital importance and gradually extending its influence into the college and the secondary school. The reason for this growth is obvious. The object of education is to fit the boy to be a man and the girl to be a woman in the fullest and truest sense. The business of domestic management is and always has been largely in the hands of woman. Women are the great consumers of the world. They are the ones who buy the output of the enormous cotton, woolen and silk factories, who select the clothing for the family, who supply the table with linen, china and glass, and who equip the home with rugs, hangings and furniture.

It would be interesting to study the effect on certain economic problems could the schools turn out large numbers of educated buyers. By educated buyers is meant those trained to discriminate intelligently between the true and the make-believe, in other words to know real values. There was a time when in a well-ordered home, a girl could learn processes of food preparation and garment-making in companionship with her mother. When the industries were in the home, women spun and wove their own materials. They then knew the properties and uses of the textile fibers of which they made thread and cloth. By a natural process they were taught to judge goods, and our careful grandmothers when they bought materials could tell easily of what they were made. Today the mothers buy largely ready-made garments or the machine-made textile product. Under such economic conditions it becomes vitally important that the girl should early have her interest aroused in manufactures for domestic purposes, in other words she should be trained to a habit of mind which will work that way. She will then naturally learn to appreciate a host of phenomena to which she would otherwise have been oblivious. Much of the technical training

may be forgotten just as she parts with her algebra or her French. But she cannot rid herself of certain opened brain-tracks, a quickening of mind when confronted with domestic concerns which will have their strong influence in making an efficient homemaker or wage-earner. The value to the community of this enrichment of the girls' experience would lie in a solution of some economic problems brought home to all in the increased cost of living and in helping woman to find her true place in the social system. This place should no longer be uncertain. The changing industrial conditions have made it most difficult for young women to get at home even the most meager training necessary for the easy making of her own wearing apparel or for the acquisition of the power of self-maintenance. These difficulties are slowly being recognized. The hand and brain of woman must be prepared somewhere for her part in the world's work whether in relation to the family, the shop, or the community. The problems of wise purchase, of adjusting standards of living to the weekly income and of personal responsibility in the family and the business life, are far more difficult to bring to the pupils in tangible form than the teaching of needlework. However, they are here and the faithful teacher will meet them as willingly and as conscientiously as she gives the technical drill to impart a knowledge of stitches.

To teach Domestic Art primarily to meet a personal need regardless of economic and esthetic considerations seems like rearing a structure architecturally without a safe foundation. To be of worth the lesson-content should stimulate thought, training, judgment and taste as well as hands. The esthetic side cannot be ignored. One must train taste; it can not be bought. On the other hand the textile aspect seems to furnish a basic foundation for the whole superstructure. Eliminate this and the resultant product is like a house built upon shifting sand, rather than upon a composite rock of historic, economic, hygienic, esthetic and ethical values. A child's training should help her to find herself in the complex organization in which she is born. Instead of being accepted as a matter of course, her clothing will be of vital interest when she has had a motor acquaintance with the processes of carding, spinning and weaving in simple form. A knowledge of these processes will also give a broad human sympathy for the toiler as well as open the way to an

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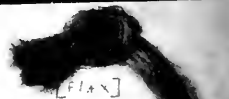
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intelligent understanding of many social and ethical issues of the day.

In considering any school subject one must be fair and not lose sight of the difficulties which confront the grade teacher on every side. The over-large class, the time limit, the difficulty of obtaining materials and the lack of technical training on the part of her to whose judgment much of the development work must be entrusted,—all these are factors not to be overlooked. Notwithstanding these seeming discouragements, one must agree with State Superintendent Draper of New York when he says—“We must try very hard to have the child able to do some definite thing intelligently, no matter at what age we lose him.” Even though the course be limited to two or more years of the elementary school, simple textile study can hardly be neglected if we desire a training that is lasting and results that are sure.

In the schools of Rochester, New York the domestic art work consists of

(a) A course in weaving for the four primary grades—girls and boys.

(b) A course in plain and in decorative needlework for the grammar grades—girls.

The textile study of the primary grades is concerned with raw materials and simple processes including thread making and the construction of a loom.

The textile work of the grammar grades is more practical in character, with the emphasis placed on present day needs. Each girl purchases her own materials for the class exercise, after a careful discussion of samples and prices. She also makes a special chart study along one line using small pieces of left-over materials and merchants' samples for this exercise. Such charts are shown in the accompanying illustration. In the Rochester school system are three Colonial hand-looms, three Barbour Linen looms and several spinning wheels. The pupils of the sixth grade have an opportunity to use one of the looms for a short time. This work is optional. The modern machine is known only through magazine illustration, language work and so on.

A few necessary notes are prepared in connection with the chart-study. Much of this side of the work being taught as language work.

In all grades, talks are given on textile raw materials and fabrics, their relation to racial development from primitive man with his simple forms of weaving, to the factories whose intricate machinery symbolizes the complicated life of to-day.

Outline of the Textile Course.

FIRST GRADE—Talks on the sheep and wool; simple story of raw material; washing and dyeing; meaning of warp and weft.

SECOND GRADE—Talks on cotton; simple story of raw material; meaning of warp, woof and selvage.

THIRD GRADE—Talks on flax and hemp; carding and spinning. Making of primitive spindle and whorl, showing the evolution of the spinning wheel. Making of woolen yarn.

FOURTH GRADE—Simple talks on silk; worm, cocoon, raw material, manufactured articles. Making of crude loom with heddle and shed stick.

FIFTH GRADE B—Brief study of cotton and flax. Chart showing raw materials and products. Comparison of cotton and linen materials. Review of steps in weaving learned in the lower grades.

FIFTH GRADE A—Talks on children's clothing. Chart showing textile materials suitable for different seasons and climates. Shapes of garments to avoid restriction; danger and discomfort of over-tight bands.

SIXTH GRADE B—Brief study of wool and silk. Chart comparison of cotton and wool, of linen and silks, of mercerized cotton and silk, of wool and silk. Directions for cleansing hair-ribbons.

SIXTH GRADE A—Chart study of one or more European manufactures (correlated with geography). Tartans, tapestries, laces, linens, silks (Select one). Chart study of fast and fugitive colors. Effects of sunlight and alkali soaps on colored fabrics.

SEVENTH GRADE B—Chart study of materials suitable for a school dress; for use in a sick room. In selection of fabrics consider durability, suitability and cost. Removal of ink, iron rust and grease spots.

SEVENTH GRADE A—Make a chart study of a girl's dress, with simple trimmings; estimate cost. Discuss prehistoric methods of weaving, home processes in the Colonial period; the interdependence of home-processes and present-day industries.

EIGHTH GRADE B—Make a chart showing the relative changes produced by shrinkage; effects of soap and water on cottons; on woolens; on artificial silks.

EIGHTH GRADE A—By means of a chart show the use of cleansing fluids other than water—naphtha, benzine, ammonia, milk, turpentine. Danger of gasoline, etc. Dry cleaning. Adulterations, shoddy, flocks, paper, cellulose.

EDITORIALS.

An American Pioneer in Nutrition Investigations.

As announced in the April number of the JOURNAL, it seems worth while to call attention to the work of the early investigators and writers on nutrition and other Home Economics topics, and particularly to the work of Americans. As yet the earliest American investigations on nutrition of which record has been found are those of John R. Young, which are reviewed in this number. Doctor Young, of Hagerstown, Md., was graduated from the Medical Department of the University of Pennsylvania in 1803, and submitted as a thesis a report and discussion of investigations on the principles of nutrition and the digestive processes. For some time attempts to obtain additional information regarding Doctor Young and his work were unsuccessful, but as a result of correspondence with the Faculty of Physic of the University of Maryland it has been learned that Doctor Young died in Washington County, Md., on June 8, 1803, almost immediately after his graduation. It is hoped that it may be possible to secure more data regarding Doctor Young as his work is not only valuable in itself but has a special interest in connection with the history of scientific research in the United States. Unless some other institution can show priority, to the University of Pennsylvania belongs the honor of having instituted in this country the experimental study of nutrition problems, and Doctor Young of Maryland is the pioneer investigator.

Cleanliness in Markets, Hotels and Restaurants.

In this number of the JOURNAL two articles appear which have to do with the cleanliness of food outside the home. An examination of the publications of State and municipal boards of health, of scientific and professional journals, and of the daily press shows that the subject of clean food is rapidly coming to the fore. Men and women are recognizing that cleanliness in markets, in bakeries, on dining cars, and in hotels and restaurants is not a privilege but a right. Oftentimes the filthy practices to which we object are due to ignorance of what is fitting and decent. The waiter who wipes his forehead

and a dish on the same service towel perhaps does not realize that what he does is objectionable, nor does the market man who exposes food to flies and dust, nor the baker who makes cake with unwashed hands. Both small and large offences of this sort will disappear when a sufficient number of us unite our protests in an effective way and insist on right standards of cleanliness in all that concerns the production, distribution and sale of food. To cite an instance of the progress being made in such line, this year legislation has been enacted in the State of Indiana which covers the question in an effective and intelligent manner.

**Nutrition Work
of the Carnegie
Institution of
Washington.**

Although the equipment and occupancy of the new Carnegie laboratory at Boston for nutrition research, referred to elsewhere, is of comparatively recent date, the participation of the institution in investigations in nutrition is of much longer standing, this line of research being one of the first which it fostered. The Carnegie Institution of Washington early recognized the value of the metabolism experiments which were being carried on as a part of the nutrition investigations of the U. S. Department of Agriculture, and one of the earliest projects to be undertaken (Grant No. 5) was begun in 1903 when an allotment of \$5,000 was made to Professor W. O. Atwater for additional experiments in nutrition. This and a subsequent grant were expended largely in co-operation with the Office of Experiment Stations in the improvement of the respiration calorimeter at Middletown, Conn., by the addition of apparatus permitting of the direct measurement of the oxygen consumed by the subject. Following the completion and testing of the apparatus, the inauguration of what is believed to be the most elaborate series of experiments on metabolism during inanition ever undertaken was authorized by the Carnegie Institution and conducted under its auspices with the respiration calorimeter at Middletown, Conn., by Doctor Francis G. Benedict, who succeeded to the direction of the nutrition investigations at Middletown after illness had compelled Professor Atwater to give up all work.

Such importance and promise attached to this project that the permanent recognition of nutrition research as a major department of the work of the institution was decided upon in 1907 and organized on the present permanent basis. After careful canvass

of the situation, Boston was selected as the locality most favorable for the site of the Nutrition Laboratory, all things considered. About the same time as the removal of this Carnegie Institution nutrition work from Middletown to Boston, the Department of Agriculture nutrition investigations were centralized in Washington and the respiration calorimeter removed to the new building of the Department of Agriculture, this work being under the direction of C. F. Langworthy. With these changes the researches on human nutrition organized by Professor Atwater and covering 20 years or more were brought to a close at Wesleyan University.

The Carnegie Institution has also made numerous grants for projects in nutrition other than that referred to above and several lines of research are in progress. Among other projects may be mentioned the grant in 1903 to the late Professor Arthur Gamgee for the preparation of a report on the physiology of nutrition, the extensive researches on the hydrolysis of the vegetable and other food proteids still being conducted by Doctor T. B. Osborne of the Connecticut State Agricultural Experiment Station at New Haven, the work carried on by Professor Russell H. Chittenden and his associates at the Yale Sheffield Scientific School relative to the minimal proteid requirements of man and other animals and the influence of hydrazin upon intermediary metabolism, and the studies of the physiology of growth, especially as regards its chemical processes, by Professor Lafayette B. Mendel, at the Sheffield Scientific School. Regarding the work of Professors Benedict, Osborne, Chittenden, and Mendel, an excerpt from the report of the President of the Carnegie Institution for 1906 is of interest as showing the institution's attitude toward nutrition research:

"All three of these lines of research are of great practical and theoretical importance, whether considered independently or collectively. They are closely related, however, and when considered as parts of a whole they give promise not only of extensive additions to our knowledge of the physics and chemistry of normal nutrition, but also of extensive additions to our knowledge of the conditions of and the remedies for abnormal nutrition. All three lines of work appear to me, therefore, well worthy of continuous support for such periods of time as may be essential to secure the anticipated results."

THE DENVER MEETING OF THE AMERICAN HOME ECONOMICS ASSOCIATION JULY 7-9, 1909.

The American Home Economics Association will hold a meeting in connection with the National Education Association at Denver, Colo. The headquarters of the Association will be at the Hotel Metropole.

The program as arranged provides for separate sessions on Wednesday and Thursday mornings and Wednesday evening, July 7 and 8. The relation of some of the National Education Association sessions is shown below.

AMERICAN HOME ECONOMICS ASSOCIATION PROGRAM.

Wednesday morning, July 7.

Round Table Conference. The High School, Opportunities and Duties.

(Those who can, will be interested to attend the meeting of the National Education Association Department of Science Instruction Session on the High School, on Tuesday afternoon, July 6).

Wednesday evening.

A general meeting with addresses.

It is hoped to secure as speakers:

President Lorenzo D. Harvey, President National Education Association; Mrs. Ellen H. Richards, Massachusetts Institute of Technology, President of American Home Economics Association; Dr. A. C. True, Director, Office of Experiment Stations, Department of Agriculture; Mr. S. Robert Hoover, West High School, Cleveland, Ohio, President Department of Business Education, National Education Association; Doctor Thomas D. Wood, Teachers College, New York; President George E. McLean, President University of Iowa; James F. Chamberlain, State Normal School, Los Angeles; Mrs. Olaf N. Guldlin, Chairman Home Economics Department, Federation of Women's Clubs; Miss Emma S. Jacobs, Director of Domestic Science, Public Schools, Washington, D. C., and others.

These addresses will be followed by a social hour for acquaintance.

Thursday morning, July 8.

Round Table Conference. Teachers' Problems in Domestic Art and Science.

Some of the meetings of the National Education Association on Thursday afternoon, Friday morning, and Friday evening are of special interest in relation to the program of the American Home Economics Association as shown by the following, selected from the National Education Association program.

Thursday afternoon.

DEPARTMENT OF ELEMENTARY EDUCATION, NATIONAL EDUCATION ASSOCIATION.

Application of the Household Arts and Sciences to the Elementary School—Mrs. Ellen H. Richards, Massachusetts Institute of Technology, Boston, Mass.

Discussion.

Friday morning, July 9.

DEPARTMENT OF MANUAL TRAINING, NATIONAL EDUCATION ASSOCIATION.

Influence of Industrial Arts and Sciences upon Rural and City Home Life—Cree T. Work, President of College of Industrial Arts, Denton, Tex.

Discussion from standpoints of:

(a) Domestic Science—Mrs. Ellen H. Richards, Instructor in Massachusetts Institute of Technology, Boston, Mass.

(b) Domestic Arts—Miss Helen Schurz, Teacher of Sewing, High School, Topeka, Kans.

(c) Economic Interests—Albert Salisbury, President of State Normal School, Whitewater, Wis.

General discussion led by Miss Harriet A. Boyer, Head of Domestic Science Department, Isadore Newman Training School, New Orleans, La.

Friday afternoon.

DEPARTMENT OF NORMAL SCHOOLS, NATIONAL EDUCATION ASSOCIATION.
JOINT MEETING WITH THE DEPARTMENT OF TECHNICAL EDUCATION.

1. The Training of Teachers for Industrial and Technical Schools—(Speaker to be supplied).

General discussion.

2. Round Table Topics.

(a) Who Should Determine Standards and Courses for the Training of Teachers and How Should Such Standards be Determined?—A. O. Thomas, President of State Normal School, Kearney, Nebr.

(b) Should the Normal Schools Teach Subject-Matter or Should Their Work Be Wholly Professional?—Francis J. Cheney, President of State Normal and Training School, Cortland, N. Y.

(c) The Davis Bill in Its Relation to Normal Schools—Report of Special Committee on Agricultural and Industrial Education—Homer H. Seerley, President State Normal School, Cedar Falls, Iowa, Chairman.

Members of the American Home Economics Association who go to Denver will be interested to consult the full program of the National Education Association meetings of which copies may be secured from the Secretary, Irwin Shepard, Winona, Minn.

Among the features of special interest from the standpoint of Home Economics are the addresses on Application of the Household Arts and Sciences to the Elementary School, Mrs. Ellen H. Richards; How may the Rural Schools be More Closely Related to the Life and Needs of the People, by D. J. Crosby, Specialist in Agricultural Education in the Office of Experiment Stations, U. S. Department of Agriculture, Washington, D. C.; Agricultural Education for the Rural Districts, by S. A. Knapp of the Farmers' Cooperative Demonstration Work, U. S. Department of Agriculture, Washington, D. C.; The Present Status of Agricultural Education in the Public Schools, by E. C. Bishop, Nebraska State Superintendent of Public Instruction; A High School Course in Drawing and Applied Arts, by W. H. Elson, Superintendent of Instruction, Cleveland, Ohio; and the report of the committee on University Entrance Examinations in Art, by A. B. Clark, Leland Stanford Jr. University. For programs address Irwin Shepard, Secretary, Winona, Minn.

AMERICAN HOME ECONOMICS ASSOCIATION SECOND ANNUAL MEETING.

The Second Annual Meeting of the American Home Economics Association will be held in Boston, Mass., at the time of the winter meeting of the American Association for the Advancement of Science. December 31, 1909 and January 1, 1910, are the dates chosen.

The council will meet on Thursday, December 30, as required by the constitution.

Associate membership (\$3.00) in the American Association for the Advancement of Science entitles one to the special railroad rates which will be secured and to participation in the many events planned for the week. No separate rates will be made for the Home Economics Association.

The sessions will be of three kinds:

1. A business session with opportunity for an adjourned meeting, for the election of officers to consider the future policy of the Association. Letters in regard to this may be sent to the Secretary by those who cannot be present. The fullest expression of opinion is desirable as the Association must be thoroughly democratic in character. The "trial" policy of the year should make this possible.

2. One or two sessions with short addresses for inspiration and encouragement from the leading men and women who will be in Boston during the week.

3. A social session for better acquaintance.

The annual dinner of the Association will be held on Friday evening.

A strong New England section is being organized and will serve as a local committee.

MEETING OF THE EXECUTIVE COMMITTEE.

At the meeting of the Executive Committee of the American Home Economics Association in New York City on Saturday, April 24th, a certificate of incorporation was drawn up and formal action taken to incorporate the Association, pursuant to the membership corporation law of the State of New York. The certificate was later approved by Justice Dowling, of the New York Supreme Court, and officially recorded in the office of the Secretary of the State of New York, on May 12th. The formal incorporators were the members of the Executive Committee present at the meeting, Mrs. Ellen H. Richards, Miss Helen Kinne, Mrs. Alice P. Norton, Miss Mary S. Snow, Mr. B. R. Andrews, and Dr. C. F. Langworthy, and these persons, with Miss Isabel Bevier, Miss Caroline L. Hunt, Miss Emma Jacobs, and Miss Mary U. Watson, who together form the Executive Committee of the Association, are by the articles of incorporation made the "directors" of the corporation until its first legal meeting. To meet the requirements of law, the Association will at that meeting re-adopt its by-laws and re-affirm its choice of directors.

At the meeting on April 24th the Executive Committee voted to hold the next meeting of the Association in Boston, December 31 and January 1. The Council of the Association will, according to the constitution, meet on the day preceding, viz, December 30, 1909.

The Committee voted to ask Mrs. Mary Hinman Abel, of Baltimore, to become Editor of the JOURNAL OF HOME ECONOMICS, with the cooperation of the Executive Committee of the Association, beginning with the September issue Mrs. Abel has since accepted this position.

BENJAMIN R. ANDREWS,
Secretary.

SCHOOL OF HOUSEHOLD ARTS.

Teachers College, New York.

The Trustees of Teachers College, Columbia University, recently approved the establishment of a School of Household Arts, which is to continue and amplify the instruction for many years carried on by the Departments of Domestic Science and Art at Teachers College. It proposes to be a school of collegiate rank, devoted to the household arts and sciences and intended to train not only teachers of these subjects, for public and collegiate education, but also professional workers who will find service as managers of large domestic and institutional households, and in their special constituent fields, as hospital management, dietetics, interior decoration, laundry management, etc.

The new building of the School of Household Arts, will be fully completed and equipped at the opening of the next academic year, in September. Joining the main building of the College it extends 160 feet along 121st Street, with a depth of 60 feet, thus affording over an acre of floor space. There are five floors, a basement, and a tower of two additional stories. The basement will contain two laboratories for laundering, and lockers and dressing rooms. The ground floor will be devoted to offices, lecture rooms and the departmental libraries and museums. The second floor will contain three large and several small cooking laboratories; the third will provide equal accommodations for work in garment making, dressmaking, millinery and allied lines. On the fourth floor there will be six laboratories for food chemistry and the physiology of nutrition. The fifth will be devoted to instruction in designing house construction and decoration, textiles and costumes, and to a model experimental apartment of seven rooms and a laboratory for nutrition research.

The School of Household Arts will offer, for teachers, degree and diploma courses in the teaching of domestic art, domestic science, and hospital economy; in preparation for technical callings, it will offer certificate courses in household administration, dietetics, and house decoration; opportunity is offered for specialization in other professional lines as costume design, institutional laundries, social work, etc., and over a score of "special classes" offer practical training in various lines.

NEWS FROM INSTITUTIONS.

Florida State College.

The Florida State College for Women at Tallahassee, was established in 1905. At the same time the University of Florida was founded for men. While both colleges maintain the same standard for entrance and for graduation, yet the authorities recognize the right of women to have their special needs considered, and they have placed home economics on an exact equality with mathematics, history and the classics. Domestic science and domestic art are electives in the Freshman and Sophomore years in the course leading to the B. S. degree in the College of Liberal Arts, and in the School for Teachers sewing is required in the second year and cookery in the third. The Science Department offers courses in household and economic botany and in domestic science chemistry which follow the two years work in the Home Economics Department.

Within the next year it is hoped to have a new building with all modern equipment. Just now the Department occupies three rooms: a large laboratory kitchen, a dining room and a sewing room.

Seventy young women are enrolled in the Department out of a total enrollment of two hundred in the College.

Miss Catherine A. Mulligan, the Professor of Home Economics is again to have charge of the work in Domestic Science at the Summer School of the South, at Knoxville, Tenn., June 22-July 30.

Pratt Institute.

Miss Edith Greer, Director of the Department of Domestic Science, Pratt Institute, will remain abroad until September.

The Dietitian Courses at Pratt Institute are exceptionally popular. The field for the trained dietitian is broadening so rapidly that supply and demand are completely unbalanced. The women of maturity who are willing to take a year of disciplinary training have an assured and very interesting outlook.

Pratt Institute, Brooklyn, has this winter been conducting a course of lectures on nutrition in which many prominent scientists have appeared. Among the lecturers have been Dean Russell of the College of Agriculture of the University of Wisconsin, and Professor Chittenden of Yale University.

Teachers College. The Home Economics Club of Teachers College, held a meeting on Wednesday, March 10, 1909. The purpose of the meeting as outlined by the president, Miss Elizabeth Johnson, was to clear up many questions that had arisen as to how to organize a Home Economics Club, what such a club could do, and how the club could be made valuable to its members and the community.

Miss Kinne, the first speaker, urged that informal organization was often the best way to start a professional society. As a concrete instance, the origin of the New York Home Economics Association was cited, which

grew out of informal meetings called to discuss the warfare against tuberculosis. The opportunity to address mothers' clubs was emphasized as a valuable means of reaching the homes, also the inspiration to be gained from such meetings and from the open discussions which follow. The need of a practical, rather than a theoretical basis for the subject presented to such clubs, was pointed out as of vital importance. Adaptation to the surroundings and the audience was mentioned as a very desirable attribute in such addresses.

Miss Lydia Southard, the next speaker, took as her theme the thought from Emerson: "He who gives us better homes, better books, better tools, a fairer outlook and a better hope, him will we crown with laurels." An atmosphere of contentment and repose was cited as a great need of the home in addition to the improvement in cooking, sanitation and house furnishing, which is the usual object in home economics teaching. Miss Southard suggested the possibility of a wide field for the Home Economics Club in furnishing information with regard to rentals, marketing and other shopping facilities to strangers coming to live in the city, and to present residents who may desire such information. As to better books, the point was made that not only were technical and popular books relating to the home desirable, but also books that will "stimulate thought in new channels, books to broaden and truly educate." Investigation and reports upon the value of labor-saving devices which tempt the housewife might be carried on by committees in the Home Economics Club. By putting the community into touch with the best thought of the times by means of stimulating speakers as well as worthy books, would do much toward bringing to all "the fairer outlook and the wider hope."

The question of keeping in touch with legislation of interest to the home and the home economics movement, was the subject of Mr. Benjamin R. Andrews' address. He spoke from the standpoint of the secondary school organization, as well as the adult club. He outlined the possibility of studying the local regulations which have to do with the household, building regulations, garbage disposal, etc. He also urged the advisability of keeping in touch with new legislative projects, information about which may be obtained from members of the State Legislature and of Congress. From the standpoint of the adult club, Mr. Andrews suggested that a definite stand should be taken for or against the proposed bills, and that the local members of the Legislature should be informed of the attitude of the Club.

Mrs. Lulie Wiles Robbins told of the problems connected with the neighborhood work at Speyer School. She suggested the possibility of experimental work with afternoon and evening classes at Speyer School. She emphasized the fact that regularity and persistent endeavor were essentials in maintaining such work.

The value of a Home Economics Club to the members and to the community was discussed by Cora M. Winchell. Enthusiasm and active work were defined as essentials for success, upon which, to a great extent, depends the actual value to be derived by the members. The inspiration to be gained from contact with others who are working on similar problems

and from "Round Table" discussions, were mentioned as a source of benefit; and the possibility of a room devoted to reference books and illustrative material was suggested. Technical, educational and general lectures by representative men and women; social meetings with brief addresses and open discussions, and exhibits, some technical and some of interest to the general public, were mentioned as sources of value to both the members of the club and to the community. As a means of broadening the interests of the home, co-operation with the Municipal League, Consumers League, social settlements, the health department and other similar organizations, was recommended. Social interests were urged as an essential addition to the manysidedness of the successful Home Economist.

On March 17, 1909, the Departments of Domestic Art, Hospital Economics and Domestic Science were entertained by the Home Economics Club. Symbolic favors signified the department to which each guest belonged. Dean Russell addressed the Club and outlined very clearly the policy of the College for the coming year. Economy would be emphasized, he said, in every department in both equipment and supplies. This was urged because of the fact that the ideals established by elaborate equipment and unlimited supplies, cannot be realized by the students in their work after they leave the school. A study of family expenditures as related to income was defined as one of the most vital problems to be met and solved. Dean Russell said that he had heard of objections to the idea that the American public should be taught how to save. He stated that he believed that living expenses could be very materially reduced through a careful and systematic education in how to spend rather than how to save, and toward such an education, with all it involves of technical information and sound judgment, would Teachers College lend its efforts during the coming year.

University of Missouri.

The survey course on home economics described in the last Lake Placid report is being given this year very much as outlined, and to twice as many students as last year.

A graduate student working on salt-rising bread has proved that the action is due to living organisms and not due to an unorganized enzyme as has been suggested. Whether it is a yeast or a bacterium has not yet been determined.

Miss Louise Stanley, Instructor in Home Economics, and Mrs. C. W. Greene, a graduate student, are doing some interesting work on the cooking of meat in connection with the large investigation carried on by the Department of Agriculture on beef production. The full history, the chemical composition, and the histological structure of the meat used in the investigation are known, so that they have a better basis for their work than any previous investigators of this question.

Thinking the recreation side of the home to be of great importance, we expect to include in our four-years curriculum in Home Economics a course on the Theory of Play and one on the Practice of Play under Dr. C. W. Hetherington, Head of the Department of Physical Education.

University of Illinois.

The fourth annual session of the School for Housekeepers was by far the most successful in the history of the school both in regard to numbers and interest. The registration was 101. Thirty-one counties were represented. The Experimental House was a source of much interest not only to the members of the school, but also to the citizens of the Twin Cities. During the month in which it was open there were as many as 81 visitors in one day. The lectures on "Home Care of the Sick" by Dr. Jennie M. Hughes were much appreciated. The most general interest, however, was manifested in the study of foods. This work was under the direction of Miss Helena M. Pincomb, assisted by Miss Nelle Miller, '05.

For the past month Miss Helen Scott Hay, Superintendent of the Illinois Training School for Nurses, Chicago, has been giving lectures to the general public and instruction to the class in dietetics. A feature of this instruction which has been much appreciated has been the use of one of the bedrooms of the Experimental House fitted as a room should and can be for an invalid in the ordinary home. The class has had the advantage of caring for a patient in the bed and instruction in changing of bed clothes, lifting the patient and giving baths. Much interest has been manifested in these lectures on the part of both the public and students. Miss Hay has shown rare discrimination in the points selected and the lectures apparently meet a universal need. The following is a general outline of the lectures and lessons: Introductory, disease, its cause and prevention, conditions in the home and environment, qualifications of caretaker, sick room and equipment, beds and bed-making, care of patient in bed, baths, nursing in fevers, care of the convalescent and aged, medicine, applications, appliances, enemata, observation of symptoms, records, first lessons in surgery and care in contagious diseases, emergencies and tuberculosis.

The annual meeting of the State Farmers Institute was held at Rockford, Illinois. The Department of Household Science of the Institute held separate sessions for three days at which matters of general interest were discussed. The Household Science department of the University of Illinois was represented by Miss Bevier by two addresses, one on Lessons in Bread Judging, and another on Art in the Home.

The Department has been gratified to receive from a former graduate Miss Agnes Hunt, '08, now of the College of Hawaii in Honolulu, a collection of different varieties of tapa, baskets and fans, showing the different processes of manufacture as well as different materials used in the Islands.

New York University.

The Department of Domestic Science of New York University was organized in the summer of 1908 with very bright prospects for the future.

An equipment for twelve students had been provided, but as the enrollment on the first day was much larger, it was necessary immediately to supplement it. This caused some delay, but the time was more than made up later, and it proved such a successful summer under the able instruction of Miss Katherine Christian, that many who took the work,

have expressed the intention of entering the advanced course, to be offered this year. Everything will be in readiness for the opening of the 1909 session of the summer school on July 1st. Miss Christian will be assisted in giving the work by Miss Elizabeth Crisman, Teachers' College.

The laboratories where the work is conducted are in the Havemeyer Chemical Building, which from its high elevation overlooks the Harlem and the Hudson Rivers and commands a view of the Palisades and the Catskills in the distance. So with its elevation, low temperature and favorable breezes, University Heights is an ideal place for summer work.

**The Woman's
College of
Baltimore.**

A course of lectures on the general subject of nutrition has been given by the college in conjunction with a committee of the Alumnae Association, as follows:

April 8, Food Principles, April 9, Digestion, Dr. Wm. J. Gies, Professor of Physiological Chemistry, College of Physicians and Surgeons, New York City; April 13, The Functions and Selection of Food, Dr. Henry C. Sherman, Professor of the Chemistry of Nutrition, of the School of Chemistry and Teachers' College, New York City; April 15, Assimination of Food, April 16, Utilization of Food, Dr. Wm. H. Howell, Johns Hopkins University; April 20, The Respiration Calorimeter, Dr. H. P. Armsby, of the Pennsylvania State College and Institute of Animal Nutrition; April 22, Possibilities of Danger from Inadequate Preparation of Food, Dr. C. W. Stiles, Chief of Division of Zoology, United States Public Health and Marine Hospital Service.

**Middlebury
College.**

On Arbor Day President J. M. Thomas and the Faculty of the college, Governor Prouty, the students and townspeople of Middlebury, Vt., assembled, and the college took possession of a tract of land presented by Hon. Joseph Battell for a campus for the woman's college. The property consists of about thirty acres and adjoins the men's campus. A fund has been completed for the erection of a woman's building and other improvements. The summer courses at the college this year are to include Home Economics, and special stress will be laid on the educational, as well as the vocational, value of the subject. Home Economics will be an important feature in the work of the woman's college.

**University of
Vermont.**

The local Alumnae Club is endeavoring to raise \$1,000 to be used in providing equipment for a course in Household Economics contemplated by the University. As a means to this end, a series of four lectures on home economics is in progress.

NEWS FROM THE FIELD.

Women's Institutes in Ontario.

The Ontario Department of Agriculture has issued a handbook and also a report of the women's institutes of the Province of Ontario for 1908. The superintendent of institutes, Mr. George A. Putnam, has organized the woman's work on a very interesting basis. There have been established in the province women's institutes which have regular times for meeting with a program bearing upon home subjects. The total membership in these institutes is 12,000 and in the year ending June, 1908, there have been held 3868 meetings with an aggregate attendance of 93,780. The hand-book shows the object of the organization, the constitution usually adopted in each institute, and a general report of the work done, besides suggested topics for study. Once a year a round-up meeting is held at the College of Agriculture, Guelph, with a program extending over three or four days in which definite teaching is done in Domestic Science. These addresses are printed in the report of the women's institutes and serve as a partial basis of work for the institutes held during the year. The report thus makes a valuable contribution to the literature on Domestic Science.

Plans for Women's Clubs.

The Home Economics Committee of the General Federation of Women's Clubs has instituted a campaign for the extension of home economics interests in women's organizations in this country. A plan of campaign has been drawn up and submitted to the State Committees on Home Economics. It outlines the aims set for the Home Economics work of women's clubs as follows:

- "1st. To have Domestic science taught in your Public Schools.
- "2d. To have Home Economic books put in your City Libraries.
- "3d. To try to have your Clubs have at least one program each year on this subject.
- "4th. To have one session of your State Convention devoted to this subject.
- "5th. If a session is not possible, you can at least arrange Round Table Talks when you take up various interesting phases of the work, in order to show the Clubs what a thoroughly comprehensive and interesting subject you represent, and how much valuable information can be given out at such a discussion.
- "6th. To arrange with your State Agricultural Colleges and Universities to secure from them, people prepared in this line of work to talk before your Conventions and Clubs and if possible to send out from them, instructors who can give short courses in places where you may arrange.
- "7th. To send in a record of your State speakers, work done; also the members of your State Committee that a record may be kept of whatever is done and passed on to others, who need this help."

In connection with Home Economics work in Indiana Mrs. O. N. Guldlin Chairman of the Home Economics Department of the General Federation of Women's Clubs writes:

"In carrying on our work the Women's Clubs are greatly indebted to the American Home Economics Association. We need your trained experts and also the splendid material that you have taken years to accumulate. As a rule it is not hard to obtain workers, if we can show that we are doing things of real value for the home and society.

"The different State reports bring valuable records which I hope to send you. The indication of these reports is the broadening influences of the club movement; we must realize that our clubs are not for a few favored members, but that we are to be the mouth piece and carry the results of great movements and transforming influences into our social and domestic life. Often we can be the means of focusing the attention of other organizations, churches, institutions, etc., upon one great object, so that we can make possible, valuable opportunities for our common growth.

"It is this cooperation of all for one common purpose, that can complete our municipal and state life.

"In Indiana, we have done a few things that show the result of this mutual cooperation. Professor Barnard of the State Food and Drug Commission says that although the laws of Indiana are now very stringent in their line, the board hopes to accomplish its work almost entirely by the educational processes. With lantern slides a speaker from the Commission shows the condition of the groceries, bakeries, restaurants, drug stores and dairies before and after they are cleaned. Through the agency of the women, especially those of the Federated Clubs they have been able to make Terre Haute a model city in this respect. The women arranged for a meeting in which the subject was presented. A committee of them, went with a member of the Commission and had white labels printed that were posted in each shop window after the transformation had taken place. Professor Barnard hopes to introduce the 'Terre Haute plan' all over the State.

"The members of the Richmond Domestic Science Club helped to furnish a kitchen in the Finley School. They also paid for the teacher's services. The letters from the children to the club express the appreciation of the parents and children for this work, and the plan has worked so successfully that the School Board is expecting to put a Home Economics Department into the new High School that they have just started.

"This club also recently had a very successful course of lectures upon this subject by Mrs. Burton Smith of Atlanta, Ga.

"At Ft. Wayne, the Home Economics department of the Woman's League, thanks to the kindness of our School Board, is able to conduct an evening class each year in the High School Domestic Science Department.

"Purdue University has recently added to its curriculum a home economics department, and Professor Henrietta Calvin of Purdue is a great help in the work in Indiana. She had in addition to the regular college work, a short course for housekeepers. She also gives talks before our Clubs and is a member of our State Federation Committee. Miss

Josephine Berry, one of her associates at Purdue goes over the State to talk before farmers' institutes, and Mrs. Virginia Meredith is always ready to help on the work with her vigorous talks and we feel we can thank her for much of the interest in this subject that exists in Indiana."

Centers for Housewifery. Under the heading, Teach Domestic Art, Centers for Housewifery, the *Milwaukee Free Press* of January 23, 1909, reports an address by Principal Thomas W. Boyce of the First District School, in which he said:

"Housewifery centers are a special branch of education in the English schools that impressed me as much as anything I saw in Europe. This system is seen at its best in Liverpool, where a three-story house has been rented by the school board and is occupied by five teachers, who sleep there making the building a real home.

"To these teachers eighty girls come every day for tuition in housewifery arts. They are divided into squads of sixteen. One squad is assigned to cook meals for one week for teachers and scholars. Another is assigned to the laundry work, and this is a science in itself. It does not consist in merely running the clothes through the tubs and drying them. Another squad cares for the house, sweeping, cleaning and dusting. And dusting and sweeping, if it is well done, becomes an art. Another set makes clothing for the others. Besides the actual work going on with trained inspectors over the students, each girl is obliged to attend a series of lectures on the care of children.

"At the end of the week each squad is given different work to do. These girls when they finish the course are qualified scientifically to care for a house, and their minds have been trained in the process of learning this, for educators of today feel that as much mental training is derived from learning properly to hem a napkin or dust a parlor as in learning a page of Latin."

Home Economics in Great Britain. The following list of institutions offering courses in home economics has been furnished, by request, to the *JOURNAL OF HOME ECONOMICS* by Miss Alice Ravenhill of London, England:

Bath—School of Cookery and Domestic Science.

Birmingham—Training School for Teachers of Cookery and Laundry Work.

Bristol—Municipal Training School of Domestic Science.

Cardiff, South Wales and Monmouth Training School of Cookery and the Domestic Arts.

Gloucester—Gloucestershire School of Domestic Science.

Leeds—Yorkshire Training School of Cookery.

Leicester—Municipal Training College for Domestic Subjects.

Liverpool Training School of Cookery.

London, Battersea—The Polytechnic, Battersea Park Road, S. W.

London, Holloway—The Northern Polytechnic, Holloway Road, N.

London, Lambeth—The National Society's Training School of Cookery.

London, Westminster—The National Training School of Cookery, 72-8, Buckingham Palace Road, S. W.

Manchester—School of Domestic Science

Newcastle-on-Tyne—Northern Counties Training School of Cookery.

Norwich—Norfolk and Norwich School of Cookery.

Preston—Harris Institute.

Sheffield—School of Cookery and Domestic Science.

Trowbridge—Wiltshire School of Cookery.

Cheltenham—Ladies College, (Principal Miss Faithfull).

London—King's College, Women's Department, 13 Kensington Square, W. (Principal, Miss Oakeley).

London, Acton—Haberdasher's Aske's Girls' School, S. W. (Principal Miss Gilliland).

London, Clapman High School, The Lodge, 63 South Side, S. W. (Principal Mrs. Woodhouse).

London, Blackheath—Blackheath High School for Girls Wemyys Road, S. W. (Principal Miss Gadesden)

Leeds—Girls' High School, Headingley Hill, (Principal Miss Lowe).

Ireland, Dublin—National Training School of Cookery, Kildare Street.

Scotland, Edinburgh—School of Cookery and Domestic Economy, Ltd., 34, Atholl Crescent.

Ireland, Dublin—Alexandra College, (Principal Miss White).

The Philadelphia Alliance for Lessening Infant Mortality.

On call of Dr. Joseph S. Neff, director of the Philadelphia Department of Public Health and Charities, a conference was held at the mayor's office April 23, 1909, to organize a movement in Philadelphia of an educational character with a view to reducing the large infant mortality in that city. The conference was opened by Mayor Reyburn who was elected Honorary Chairman. After the consideration of the purpose for which the meeting was called, the conference organized into an association of which the title is The Philadelphia Alliance for the Care of Babies. It is under the auspices of the Department of Public Health and Charities, Board of Education, Congress of Mothers, Home and School League, and allied associations. Dr. Neff was elected chairman of the organization and Howard Cooper Johnson, treasurer.

A committee of six consisting of the three officers and three members was appointed with power to act to devise methods for carrying on the work of the organization. After discussion of some business matters the meeting was addressed by Mayor Reyburn; Dr. Neff; Mrs. Frederic Schoff, President of the National Congress of Mothers; R. E. Miles, President of the Children's Conference in New York; Dr. C. F. Langworthy, in charge of Nutrition Investigations, Department of Agriculture, Washington, D. C.; B. H. Rawl, Chief of Dairy Division, Department of Agriculture, Washington, D. C.; Dr. Theodore Dreiser, Editor of the *Delineator*, New York; and Miss Edith Howe, of New York.

In general the speakers discussed the need for work which will lessen infant mortality in Philadelphia; the success of such movements in other

cities; plans for securing a pure milk supply; house and market sanitation with reference to the health of the mothers and other members of the family and related topics. The conference was attended by about 75 men and women prominent in Philadelphia scientific, philanthropic, and other activities for the public good.

Immediately after the meeting the conference began its work in accordance with plans outlined at the time of organization. Four fixed sub-committees have been appointed on the procurement of halls; ward organization, and audiences; on the procurement of lecturers; and on the care of babies. The title of the last named committee does not clearly indicate its work, but it will be the duty of members to care for young babies while their mothers are attending various lectures and conventions given by the Alliance. The use of public school buildings for lectures was tendered the Alliance by Dr. Martin G. Brumbaugh, Superintendent of Schools in behalf of the Board of Education and this will enable the Alliance to reach a certain number of women. The sub-committee having this matter in charge is now endeavoring to secure the use of halls belonging to different business men's associations in various sections of Philadelphia where an entirely different group of women can be reached. The sub-committee appointed to secure lecturers will ask for volunteers from Philadelphia physicians and nurses and will also have the services of the physicians in the employ of the city doing school inspection on contagious diseases and charity work,—one hundred in all. The committee on ward organization and audiences of which Mrs. Frederic Schoff is chairman has appointed on her committee a woman from almost every ward in the city to act as chairman of sub-committees of women in their own ward whose duty it will be to aid in procuring audiences and to visit young mothers in their districts. To aid in locating young mothers Dr. Neff has had from thirty to forty thousand cards prepared in the Philadelphia Division of Vital Statistics giving the names and addresses of all those who have given birth to babies within the last year and a half.

As an important part of the work of the Alliance, Dr. Neff has already arranged for the young babies in the municipal institutions to have fresh air during the summer. A floating hospital in the river will be used and a location in Fairmont Park has been selected to which the babies will be taken daily during the hot term. Dr. Neff proposes to extend this movement to cover the entire city and will procure the use of parks and river boats where babies can be taken care of.

A circular has been prepared giving the lectures and general outline of the ground to be covered by the work of the Alliance. This is in addition to the original circular on babies issued by the Philadelphia Department of Health which is used for general distribution in the slum districts.

**Western Drawing
and Normal
Training
Association.**

This body met at St. Louis, May 4-7. Departmental round-tables were held in art instruction, manual training, and in household arts. Miss Clara Isabel Mitchell of the University of Chicago, and Miss Helen Day, of the Bradley Polytechnic Institute acted as chairmen. of the section of household arts, and papers were given as follows:

The Relation of Domestic Art to Other Subjects in the Curriculum, Miss Grace Fuller, Supervisor Domestic Science and Art, State Normal School, Ypsilanti, Mich.; Preparation Necessary to the Training of a Teacher in Domestic Art, Miss Charlotte M. Gibbs, Instructor in Textiles and Clothing, University of Illinois; Co-operation of Grade Teachers with Teachers of Domestic Art, Fine Arts and Manual Training, Miss Maude R. Flickner, Central High School; and Domestic Science in the High School, Dr. Edna D. Day, Home Economics, University of Missouri, Miss Jessie Long, Supervisor Domestic Science, Saginaw, Mich., Miss Laura M. Kinsey, McKinley High School, St. Louis, and Miss Louise Stanley, University of Missouri.

At a general session addresses were given on The Claim for Domestic Courses in General Education, Miss Ellen C. Sabin, President Milwaukee-Downer College, Milwaukee, Wisconsin; The Socio-Economic Value of Domestic Art in the Education of Future Homemakers, Dr. Edna D. Day; and Our Opportunity in Shaping Public Taste, W. M. Davidson, Superintendent of Instruction, Omaha, Nebraska.

The Missouri Association of Applied Arts and Sciences held meetings May 3-6. The annual address was delivered by President A. Ross Hill of the University of Missouri who took for his subject The Place of the Applied Arts and Sciences in Secondary Education.

National Education Association. The Department of Superintendence of the National Education Association met in Chicago, Ill., February 23-25, 1909. The program included among other topics, a series of papers on industrial education. A feature of the Convention was the joint session with American School Hygiene Association, at which papers were presented on (1) The Necessity for Departments of Hygiene Within Boards of Education, by William H. Maxwell, Superintendent of Schools, New York City. (2) Hygiene of the Public Playground, by George E. Johnson, Superintendent of Playground Association, Pittsburg, Pa. (3) The Evil Influences of School Conditions upon the Health of School Children, by Woods Hutchinson, M.D. and (4) A Plea for the Systematic Annual and Universal Examination of School Children's Eyes, Noses and Throats, by Frank Allport, Professor of Clinical Ophthalmology and Otology, Northwestern Medical School. The School Hygiene Association also held separate sessions during the Convention.

Secondary Schools. A tendency which has shown itself to some degree for the last few years is now developing with marked rapidity. This is the extension of work in the secondary schools with a decided vocational aim. The term vocational is used in this connection as including not only training for home-making, but also for some work which will make the high school graduate at least partially self-supporting. (Some five years ago a superintendent of schools in a New England city expressed a desire to have high school work in both domestic science and domestic art take such shape that the girl would have, if not a trade, at least the beginning of a trade, or something which

would help her to earn her own living.) This is one development of a general movement in the field of education, which shows itself most markedly in the trade school. So far, the trade schools in this country have given work mainly along domestic art lines. The instruction the girls have had in the domestic science field has been intended simply to give them some knowledge of housekeeping. But now in domestic science as well as in domestic art this other vocational tendency is apparent. The most highly developed work not strictly along trade lines is in the Practical Arts High School, Dorchester, Mass., where Miss Annie L. Bennett, director of the domestic science and art, has organized work in domestic science that gives the pupils training for catering.

Mrs. Blanche E. Hyde, director of household arts in the new Technical High School, Newton, Mass., also intends to develop vocational work in both domestic science and art as soon as is practicable.

Miss Ellen L. Rushmore, of the Manual Training High School, Brooklyn, N. Y., has kindly furnished the following information, which she wishes to have considered as tentative, rather than final:

"The course in the Manual Arts for girls is as follows (1 period consisting of 45 minutes).

Second year of High School Course,

2 lessons of 2 periods each in plain sewing.

Third Year of High School Course,

2 lessons of 2 periods each in domestic science,

3 periods millinery.

Fourth Year of High School Course,

2 lessons of 2 periods each in dressmaking,

3 periods of advanced domestic science.

"The object of the course in domestic science is to prepare students to be competent homemakers. With this end in view, the course is planned to cover work in preparation and serving of meals, the care of a bedroom, simple laundry work and general cleaning, with a little home-nursing.

"The course in the fourth year has been added only recently, and the new work has not been competently organized yet. Great interest is shown, however, in developing those phases of the subject which have a vocational tendency. But it is too soon to make any definite statement regarding the work. At the end of another year we expect to see some of our hopes realized, and shall be in a position to say something more positive."

Mr. Charles R. Allen in planning courses for the new High School at New Bedford, Mass., intends to have work that is decidedly vocational, using the word in both senses.

Will all superintendents or teachers who have already completed plans for work of this nature kindly send reports to Mrs. Ellen H. Richards, Massachusetts Institute of Technology, Boston, Mass.? This aspect of the work will probably be discussed at the Denver meeting of the American Association of Home Economics.

**Elementary
Schools.**

A letter has come from California asking how courses in cookery may be adapted to meet the needs of the various children of foreign birth or parentage in the public schools. Reports on this point giving practical experiences will be most helpful. In the New York City schools, both public and private, great attention has been paid on the part of the teacher to the study of Hebrew rules for kosher cookery. In the public school in a neighborhood where the children are all Hebrews, a kitchen has been furnished with equipment adapted to kosher cookery.

A report on this subject will be published in the fall if teachers will kindly send in the results of their experience. Letters should be addressed to Miss Helen Kiune, Teachers College, Columbia University, New York.

**Connecticut
Teachers
of Home
Economics.**

Twenty-five Connecticut teachers have agreed to hold a meeting at New Haven with the State Teachers Association to organize a State society of teachers of Home Economics. A committee is at work on plans for furthering this object.

**Domestic
Economy
Teachers' Salaries
in England.**

In a recent communication to *Education*, Miss Marjory Stephenson, Staff Teacher in Science in the Gloucestershire School of Domestic Science, discusses the status of Home Economics teachers in England. She points out that "We are told that to teach the art of Home Making to the children in our elementary schools is one of the highest aims that a woman can place before herself, and that on the successful performance of this great work depends the solution of many of our gravest economic problems; from this it follows that it is of the first importance that well-educated, capable, and energetic women should be induced to enter this branch of the teaching profession."

Yet, although the minimum time of training for diplomas in cookery, laundry and housewifery for work in elementary schools is two years, at a cost of about \$900, the initial salary offered in the elementary schools is seldom over \$400, and this rises by annual increases of \$25 to only about \$600. In many cases the start is below this and there is no assurance of an annual rise.

Miss Stephenson declares that, "Not until a teacher's salary exceeds \$500 has she any margin for holidays or amusements; until then these can only be obtained through the charity of relatives and friends. And, in my opinion, no teacher receiving less than \$600 can reasonably be expected to make any provision for her old age."

As a result, it is a common complaint that as soon as a domestic economy teacher has gained experience in elementary school teaching, she immediately seeks other and more remunerative work in secondary schools or elsewhere. Miss Stephenson, therefore, concludes that "if the status of the domestic economy teachers is to be raised to its proper level, salaries must go up."

BOOKS AND LITERATURE.

The Standard of Living Among Workingmen's Families in New York City.. Robert Coit Chapin, Ph.D. New York Charities Publication Committee, 1909, pp. 372. Cloth \$2.00.

This comprehensive study was undertaken by a committee appointed at the Seventh New York State Conference of Charities and Corrections, held at Rochester, in November, 1906. The object was to ascertain the essentials and cost of a normal standard of living in the cities and towns of the state. The work was completed under a grant from the Russell Sage Foundation, the author, who is Horace White professor of economics and finances in Beloit College, serving as secretary of the committee. Very complete schedules of inquiry as to details of income and expenditure were distributed in Greater New York and 642 were returned, of which 391 were accepted as normal and accurate. Of these 318 represented incomes between \$600 and \$1,000. The leading nationalities were Americans, Russians and Italians, and about half were engaged in manufactures and mechanical trades.

From the large amount of very suggestive data set forth in detail, it is concluded that an income under \$800 is not enough to permit the maintenance of a normal standard, while \$900 or over probably does permit it, at least so far as the physical man is concerned.

The failure to maintain a normal standard may be due to causes quite outside of the capacity of the individual bread-winner or of the economic forces that determine the rate of wages, two of these outside considerations being the presence of too large families and the inability to make a wise use of the money earned. Regarding the latter point, the author points out that to bring expenditures down to the exact requirements of an ideal economy, "is not within the ability of the ordinary wage-earner's wife. She cannot spend hours in bargain-hunting, in experimenting with new food combinations, in making and mending garments. She has not, and cannot be expected to have, the training and ability to do all these things, even if she had the time. She has to take the methods of housekeeping that are traditional in her environment and apply them as skillfully and intelligently as her native and acquired powers of mind and body permit. What the exceptional woman might do cannot be made the measure of what the average woman may be expected to do, and if the morals and efficiency of the population are to be kept up, provision must be made for what the woman of average capacity must have to keep her family up to the prevailing standard. Only when education in a better economy is widely diffused, will it be possible to maintain the existing standards of physique and character on a lower absolute income."

In general, however, "the results of our investigation indicate that, while the personal factor does operate in the case of every family, both as regards the habits of the father and the managing ability of the mother, the limits within which it may affect the actual sum total of material comforts

that make up the living of the family are set by social forces. These social forces find expression, on the one side, in the income which the family receives—that is, in the rate of wages received by the father and others who are at work; on the other side, they are expressed in the prices that have to be paid to get housing, food, and the other means of subsistence. The actual standard that prevails is set primarily, therefore, by the wages paid and the prices charged."

In addition to the main study there are also given in appendixes reports of the committee on the standards of living in which the data are further discussed, a copy of the elaborate schedule used in the work, and brief reports of similar studies made in Buffalo and nine other cities and towns outside of Greater New York. The chief difference in the New York and Buffalo returns was as regards the lower cost of rent in the latter, but the author of the Buffalo report, John R. Howard, Jr., points out the difficulty in making sweeping generalizations from such comparisons. An article entitled *A Working Man's Budget* by F. Le Play, discusses the budget of a typesetter in Brussels.

The data with reference to food are discussed in an appended report by F. P. Underhill. With reference to the New York studies he states that "comparison between the amounts spent for food by well nourished and poorly nourished families indicates that in general when less than 22 cents per man per day is spent for food the nourishment derived is insufficient, and when more than 22 cents per day is expended the family is well nourished."

As to the Buffalo studies "the general conclusion may be drawn that for 21 cents per man per day sufficient nourishment may be bought in the city of Buffalo to keep a man in bodily health and vigor at moderate muscular work. No definite relation appears to exist between the purchase of a preponderance of animal or vegetable food and an ability to live at a low figure."

The study also includes a summary of methods employed by previous investigators in making statistical studies of workingmen's budgets and a partial bibliography on the general subject of workingmen's budgets and the standards of living.—H. L. Knight.

How to Spend a Shilling on Food to the Best Advantage. S. H. Davies, York Health and Housing Reform Association [Food Chart No. 1]. folio.

In this chart which was prepared for the York Health and Housing Reform Association the nutritive ingredients and energy value of 25 cts. worth of a number of common food materials is shown by means of figures and the selected foods are briefly discussed.

The Computation of Rations for Farm Animals by the Use of Energy Value. H. P. Armsby, U. S. Department of Agriculture, Farmers' Bulletin 346, pp. 32.

Although this bulletin is written from the standpoint of feeding farm animals the discussions are for the most part of fundamental questions and are applicable to human as well as to animal nutrition. The author takes up such topics as the following: Components of the animal body; the

machinery of the body; the reserve material of the body; the composition of the entire body; the animal body as a machine; the demand for repair material; feed as a source of repair material; measurement of energy; feed requirements; the computation of rations; and general considerations.

As an interesting discussion of nutrition of the animal body, from the theoretical as well as from the practical standpoint the bulletin can be recommended to students of nutrition problems.

The Egg Trade of the United States. M. M. Hastings, U. S. Department of Agriculture, Bureau of Animal Industry, Circular 140, pp. 34.

In this discussion of eggs from the standard of the dealer as well as the consumer such questions are considered as quality in eggs; grade of eggs; detrimental changes in eggs and consequent losses; the consumers' position; methods of marketing eggs; and storage and preservation of eggs.

The Fireless Cooker, How to Make it, How to Use it and What to Cook. Caroline B. Lovewell, Frances D. Whittemore and Hannah W. Lyon; Home Publishing Company, Topeka, Kans., 1908, pp. 211, fig. 9.

Fireless cookers of home construction are described, and cooking with such devices is discussed on the basis of experience. The writer's experiments were perhaps rather more ambitious than is usual, and a number of plans for this method of cookery are described which it is stated have proved of much service in diminishing household labor. The way in which an old refrigerator was converted into a fireless cooker with an oven heated by hot soapstone or fire bricks, is described in one chapter. Other chapters discuss the insulated oven, the insulated cold box, and an insulated pail for keeping food hot or cold as is desired. In addition the volume contains a large number of receipts especially arranged for use with fireless cookers.

Bacteriology of the Household.

This is a pamphlet in the Cornell Reading Course for Farmers' Wives, being the first of a new series devoted to the subject of sanitation. It is well written, and gives a very satisfactory account of the bacteria, molds, and yeasts, which play a part in many of the practical operations in homes. There is also an important section on disease germs. The pamphlet is the kind of literature which deserves great popularity, and every one interested in sanitary science should commend the publication of such valuable information in a series of bulletins which goes directly to the people who must put the information into practical use.—M. A. Bigelow.

A Small House Plan.

In *Breeders' Gazette*, Vol. 35, No. 14, page 846, a farmer's wife submits the plan of a small house designed particularly to insure the saving of steps in housework. Critical comments of the plans are made by J. E. Wing of the editorial staff who is especially interested in such matters.

The Fight Against Consumption, St. Johns, Newfoundland. Robinson and Company.

This is a pamphlet of ninety pages reporting a unique Teachers Institute which brought together all the public school teachers of Newfoundland for a week's meeting in August, 1908, to be instructed as to the ways and means of co-operating in the campaign against tuberculosis. The Institute was conducted under the auspices of the Newfoundland Association for the Prevention of Consumption. Public opinion had been aroused in Newfoundland by the great increase of mortality from consumption which in five years has grown fully fifty per cent in every section of the Colony, with few exceptions. In two sections the mortality had actually doubled in this period. The ravages of the disease were especially terrible in the small fishing hamlets scattered up and down the coast. The only way to reach them seemed to be through the teachers to be found in such settlements. They were, accordingly, brought together for a week's instruction regarding preventive measures in tuberculosis hygiene. A program of meetings lasting from Monday evening to Friday afternoon was arranged, including papers and discussions, results of which are now brought together in this pamphlet. Recent reports from Newfoundland indicate that the Institute is bearing fruit. The suggestion of an Institute for teachers on this subject, is one that might well be followed generally in city, county, and other organizations of teachers.

The Hotel Monthly, published by John Willy, 325 Dearborn Street, Chicago, \$1.00 a year.

This is a professional monthly in the sense that it is intended to circulate among hotel proprietors and stewards, and at the same time, to serve as a magazine of reference for travelers. Teachers of institutional cookery and institutional management will find in this journal articles of real value. For example, the February issue contains, on page 34, an article on Checking the Orders Against the Issues, which is the explanation of a system of store-room issues and baker's report sheets. Another very interesting article, on page 46, is a description of the Kitchen of the Baltimore, Kansas City, a kitchen which supplies a dining-room aggregating a thousand chairs. The article includes a plan of kitchen with a descriptive key. Another article is on the Housekeepers Daily Report Sheet and the Dining Room Record Cards in a Pittsburgh hotel. Discussions of the hotel and local option, rules for the bell-boy and other persons on the staff, and articles of professional interest, make up the reading matter of this number. The advertising pages are no less suggestive, with their entries of house furnishing establishments, and books which are useful in the management of hotels and clubs.

Sewing Machine Times, New York, \$1.00 per annum, bi-monthly.

This is a trade Journal published for persons engaged in the manufacture and sale of sewing machines. Persons who are interested in the instruction of dressmaking and allied lines, will find in its advertisements and occasional notes, topics of direct bearing upon their instruction.

Recent copies have had historical articles on the development of the sewing machine and advertisements of specialties of technical interest.

Bulletin of the Domestic Reform League, January, 1909. Published by the Domestic Service Bureau of the Woman's Educational and Industrial Union, Boston. Reorganized 1897 as the Domestic Reform League.

This Bulletin gives some information regarding wages of women in domestic service. A table shows the weekly wages in various occupations to be as follows: Average in domestic service, \$5.08; textile operatives, \$7.15; saleswomen, \$6.21; and teachers, \$13.29. Adding in the allowance for room and board, the total wage of the servant becomes \$9.08, the textile operatives \$7.15, saleswomen \$6.21 and teachers \$13.29 weekly. The Domestic Reform League has published a series of Bulletins for free distribution, some of which are still available, and libraries of home economics should secure them.

The Bulletin of the North Carolina Department of Agriculture, Raleigh, N. C., October 1908.

This Bulletin includes an article on Domestic Science Railway Cars, (referred to in the April issue), and three lectures delivered at women's institutes: "Why We Should Attend the Institute"; "The Prevention of Disease in the Home"; "A Talk on Food." There are also addresses delivered at the Women's Meeting of State Farmers' Convention, including the following: "The Country Woman's Spending Money" and "The Mother as a Source of Inspiration to the Child." Teachers of home economics will do well to inquire regarding publications of their State Department of Agriculture.

Monthly Bulletin in New York State Department of Health, Albany, N. Y.

The February number of this Bulletin contains an article on the "Investigation of Shellfish Beds and Shellfish" which discusses shellfish as related to typhoid, the pollution of waters and methods of investigation. About one-half of the Bulletin is devoted to vital statistics, but there are notes of value on tuberculosis, diphtheria, the disposal of sewage and other topics.

The State Versus the Home, Should there be a Central Government Department for Children? by Mrs. M. K. Inglis. *Fortnightly Review*, October, 1909.

This is an article emphasizing home life for children as contrasted with institutional life and urging the need of a Central Government Bureau which will be responsible for the protection of children. The first part of the article is devoted to "the problems" and includes a section which attempts, in brief form, to state the standards of Normal Home Life, Abnormal Home Life, Unsatisfactory Home Life, and Evil Home Life. For example, Unsatisfactory Home Life is classified as affected by: The Sweated Home-Worker, Travelling Showman, Itinerant Musician, Bargee Tinker or Gipsy, Hawker, Casual Laborer, Unemployable, or Tramp and Vagrant.

Cornell Reading Course for Farmers' Wives, New York State College of Agriculture, Ithaca, N. Y.

For several years the New York State College of Agriculture has issued bulletins and conducted this course with Miss Martha Van Rensselaer as Supervisor. A new series on sanitation began with the issue of November 1908.

No. 1. **Saving Strength** by Mrs. Emily M. Bishop and Miss Van Rensselaer, gives many simple and sensible directions for relieving fatigue and adjusting household appliances to save human energy. The illustrations are even more forcible than the text. This contains sixteen pages.

No. 2. **Insect Pests of House and Garden** by Professor M. V. Slingerland, deals with those pests which eat clothing and furniture, get into food, annoy man, carry disease, and destroy house and garden plants. The cuts show the life history of each insect throughout all the stages of development. A bibliography of literature on household insects is given. This contains forty pages.

No. 3. **The Laundry** by Miss Flora Rose, deals with the many phases of this subject very fully.

A discussion paper accompanies each bulletin with several questions for the reader to answer and return to the College of Agriculture.—Anna Barrows.

House Painting, A. H. Sabin, M.S. John Wiley and Sons, New York, 1908. Pp. 121. Price, \$1.00.

This volume fills a long felt want; its clearness and simplicity will appeal to the reader, and being written by a master, its contents will carry conviction. We have long wished for a manual which would make clear the basal principle of the art of house painting and decoration in a simple and attractive style. Without entering into an exhaustive analysis of the book, it can be said that the subjects of painting in oil and water color, varnishing, paperhanging, glazing and the preliminary treatment of old and new surfaces, is thoroughly discussed. Dr. Sabin seems to suggest that his book is for the amateur only; we think that many master painters might also read it with profit, and to the householder, old and new, this little volume will be a great boon.—H. T. Vulté.

Metropolitan Magazine, New York, is publishing a series of articles on The Prevention of Tuberculosis which began in the April number.

The Application of Scientific Methods to Housekeeping, by Mabel Atkinson, *Albany Review*, September, 1908, pp. 647-657, reprinted in *Littel's Living Age*, October 24, 1908, pp. 227-233.

Co-operative Housekeeping and similar questions are discussed.

The Hartley House Cook Book and Household Economist, by Ella A. Pierce, Lentilhon and Company, publishers, New York City, 1901. 172 pages, price 60 cents net.

Owing to the comprehensive yet simple method of treatment of the subject of household economics, The Hartley House Cook Book is alike valuable to the thrifty housewife and the teacher of domestic science.

The receipts are simple, yet in many cases unusual, ensuring helpfulness in securing variety to the diet. The household suggestions are invaluable. In short, quoting from the author, "It is recommended to those who wish to live well at a moderate cost."—Mary L. Caufield.

Borderland Studies, Miscellaneous Addresses and Essays Pertaining to Medicine and the Medical Profession and Their Relations to General Science and Thought, Vol. II. George M. Gould, M.D., Philadelphia. P. Blakiston's Son & Company, 1908.

The first of these essays in Volume II is entitled "The History of the House; The Struggle for Light and Air," and is a contribution in popular form to the literature of Home Economics. It makes plain the relation between housing and health which has held true in the history of disease and is now recognized to be one of the most important factors in the campaign of preventive medicine. The modern detached house which in most respects is in reasonable accord with the needs of health, is shown to be the result of a long evolution, the steps of which are made plain by nearly fifty illustrations. Now, for the city dweller, the process is set back by crowded conditions which have put fresh air and sunlight at a premium.

"Physicians agree that tuberculosis and pneumonia, if not other diseases, are house diseases." "The history of civilization as related to the house may be summed up as consisting of four epochs: 1. That of securing protection and warmth by means of the single-roomed, windowless hall; 2. That of the creation of the chimney; 3. That of the making of glass windows; 4. That of securing ventilation; and this is the stage in which we are now living and shall live for centuries to come."

The bringing together in brief form of interesting material regarding the house, and pointing to the further development required is indeed a useful service. The illustrations and the suggestive lines of thought given by the brilliant author make the essay one of unique value.

Among the other essays in the volume are: A System of Personal Biological Examinations, and The Seven Deadly Sins of Civilization. The latter are given as: Tobacco, Tea and Coffee, Alcohol, Sugar, Venereal Diseases, The Modern House (because of house-caused disease) and Eye Strain." While opinion may differ as to the makeup of the list, workers in home economics can not fail to be impressed by the fact that Dr. Gould's list falls almost entirely within the field of household concern and control.—B. R. A.

Civics and Health. William H. Allen, Secretary of Bureau of Municipal Research. New York: Ginn & Co. \$1.50.

This work forms an important contribution to the literature of the present era, which deals with various aspects of the health problem. The author treats health in its relation to the individual, the family, the school and the community in general. The approach is from the social point of view and much emphasis is given to the idea that "health is a civic duty." The headings of the five divisions express briefly the dominant ideas of this book. They are as follows:

Health rights; reading the index to health rights; cooperation in meeting health obligations; official machinery for enforcing health rights; and alliance of hygiene, patriotism and religion.

Dr. Allen treats the subject in an unconventional, vigorous and stimulating fashion. The presentation is often dramatic and even spectacular. Illuminating cuts, charts, tables and outlines add to the graphic quality. The material is strictly modern and some of the statements and conclusions will be criticized as drawn from insufficient or doubtful premises. The treatment of some topics is necessarily fragmentary and the transition at times abrupt. It may be admitted that the author indulges in apparent exaggerations in some places and that some of his epigrams need qualification and explanation in the interest of conservative exposition. However, it is evident that this book is not intended to be conservative and the opinions seem to the reviewer almost without exception essentially sound and convincing. While the book will benefit all classes of readers, it may be read with particular profit by parents, physicians, nurses, teachers, ministers and social workers.

It is impossible to give any accurate impression of this book without direct examination and the unbiased critic may bespeak for it a wide circulation and an effectively useful career. It is a pity that such a book could not be advertised as skillfully as the patent medicines.—Thomas D. Wood, Columbia University.

Equipment for the Teaching of Domestic Science, Helen Kinne. *Teachers College Record*, May, 1909.

This pamphlet is intended primarily for normal students who are studying domestic science methods. It should, however, be useful to any superintendent or teacher who is intending to equip a domestic science room or department. It treats of equipment for cookery, table setting and service, cleaning, laundering and home nursing. It is illustrated by drawings and photographs. It also contains a description of the New School of Household Arts, Teachers College. It may be secured by addressing the Teachers College Museum, price thirty cents.



SANITATION CAR. TRAVELING EXHIBIT STATE BOARD OF HEALTH, CALIFORNIA, 1909
(See page 394)

THE Journal of Home Economics

VOL. I.

OCTOBER, 1909

No. 4

REPORT OF THE DENVER MEETING OF AMERICAN HOME ECONOMICS ASSOCIATION.

The Denver meeting of the American Home Economics Association was held July 7-8, 1909. It was in close connection with the sessions of the National Education Association, in rooms arranged for it by the general secretary of that Association who also made the formal announcement, thus giving a standing and stamp of approval. Headquarters were provided by Mrs. Richards at the Hotel Metropole where over forty teachers from ten States registered and met each other socially and were able to compare notes as to their work.

The social features were not so prominent as they would have been had there not been enough and to spare in the N. E. A. program. On Wednesday, for instance, there were scheduled four receptions. Mrs. Richards was one of the chief speakers at the luncheon given by the Mothers' Congress on Tuesday and also at the luncheon given by the School Dames Club on Wednesday.

The first session was opened in Unity Church at 10 o'clock with nearly one hundred in attendance, many ladies of Denver, including Mrs. Sarah Platt Decker, being present. Many men prominent in educational affairs expressed regrets that their own section work prevented their attendance.

No attempt had been made to present set papers, but rather to bring out different phases of the work by means of short statements.

For sins of omission and commission in the following report, made under difficult circumstances, the president and acting secretary beg the tolerance of the members, and hope that any who may be misrepresented will send a correct account of their work.

WEDNESDAY MORNING, JULY 7.

The Home Economics Conference was called to order at Unity Church by Mrs. Ellen H. Richards, President. An address of

welcome was given by Mrs. Stuart Douglas Walling of Denver, followed by words of greeting from Miss Henry, Supervisor of Domestic Science in the Denver Schools, who also announced an exhibit of manual training, domestic science and art in the East Denver High School building.

Mrs. Richards in her opening address spoke as follows:

"Educators have looked askance at Domestic Science work because it was not scientific, and housewives because it was not very domestic. Many lines have developed since the work opened, but the germ of growth was in it from the first. All education is in a plastic condition, especially must this be true of so new a branch as ours. There has been no regular road to follow. Experiment stations for the work are being organized everywhere. The work originally begun by private initiative,—a woman here, a man there who became interested—has now been taken up as a part of public education. The first organization was for the benefit of the poorer classes, the factory girls being notoriously poor cooks, but the young ladies of Boston were also taught in classes. Then, it appeared in the graded schools, from kindergarten up.

"Now comes the crucial point, the high school, the school that prepares for life,—we leave the college out for the present. The point of attack is the high school regular course, the object being to obtain points of credit in high schools, and to perfect methods of carrying out the work. I hope you will study the report on this subject and help the committee. To carry out any such movement requires a means of communication, so the JOURNAL OF HOME ECONOMICS was started last winter, with five issues per year. It is expected that it will eventually be made a monthly. It is hoped that every one will send items of interest in regard to the work.

"In all rural and agricultural education, the girl is acknowledged to be as important as the boy. Congressman Davis, in the provisions of his bill, assumed that the girl needs as much as the boy. In many cities girls are not encouraged to go out and learn a trade, but in the country the boy holds the plow and the girl makes the butter and takes care of the house. Here, surely, is our opportunity. Teachers of all Home Economics subjects have the greatest chance in the world. They can shape the new education to bring all science to the people. Much science is

brought to the machine shop, to the service of agriculture, but not much to the home. It must now be applied to making home life more profitable, more comfortable. I want you to feel proud of yourselves that you are in this work so early.

"In response to requests, we ask discussion upon three topics: (1) the giving of credits for this work; (2) length of lessons; (3) individual vs. group work."

Miss Adams, Supervisor of Domestic Science at Springfield, Ill., reported that girls who take Domestic Science in the high school receive credit in the State University.

Miss Emma A. Chandler from Oklahoma Agricultural College reported a live interest and active cooperation.

Miss Henry, Denver Manual Training High School, described her work, but stated that no credit was obtained.

Miss N. S. Knowles, of the extension staff of the Iowa State College, reported that both long and short courses were taken. There was also extension work through women's clubs, mothers' clubs, farmers' institutes, and teachers' institutes. Teachers' work, especially in physiology, is made more vital by work in Domestic Science.

Miss Morrison of Pueblo, Colo., reported sewing in the fifth and sixth grades, and cooking in the seventh and eighth grades, but no high school work at present. The time given is one period per day.

Miss Berry, DeKalb, Ill., considered one and one-half periods enough, and that more than two hours at one time are wasteful of effort. She uses thirty minutes for the presentation of new work. It is better for children to have the discussion first.

Miss Howell, Kansas City, Kans., thought one hour not enough, and Miss Tingle, Portland, Ore., deemed two-hour periods ideal for children.

Miss Alice Treganza, Bloomington, Ill., reported that work was not yet thoroughly organized in the high school of Bloomington, but that a thorough course in Domestic Science is given in the grades. The work is individual, and counts for one and one-half hours, or one credit in the high school.

Miss Mary B. Vail, Denton, Texas, described her school and said that this is the only school of its kind in Texas. It consists of preparatory work with two years of college work. Miss Secrest of San Luis Obispo, California, reported progressive conditions. Domestic Science in the high school, and Domestic Arts in the graded schools were reported by Miss Ward, of Provo, Utah.

Professor Rosa Bouton, University of Nebraska, expressed her belief in beginning with college work, and working down. The subject appears in the four-years college course, the first and fourth years taking up Domestic Arts, and the second and third years, Domestic Science. The School of Agriculture is now working out a high school course, this being only the second year since girls were admitted to this school. Credits are given for this work. The high school prepares for the university, and there are four or five high schools in the State where Domestic Science has been established.

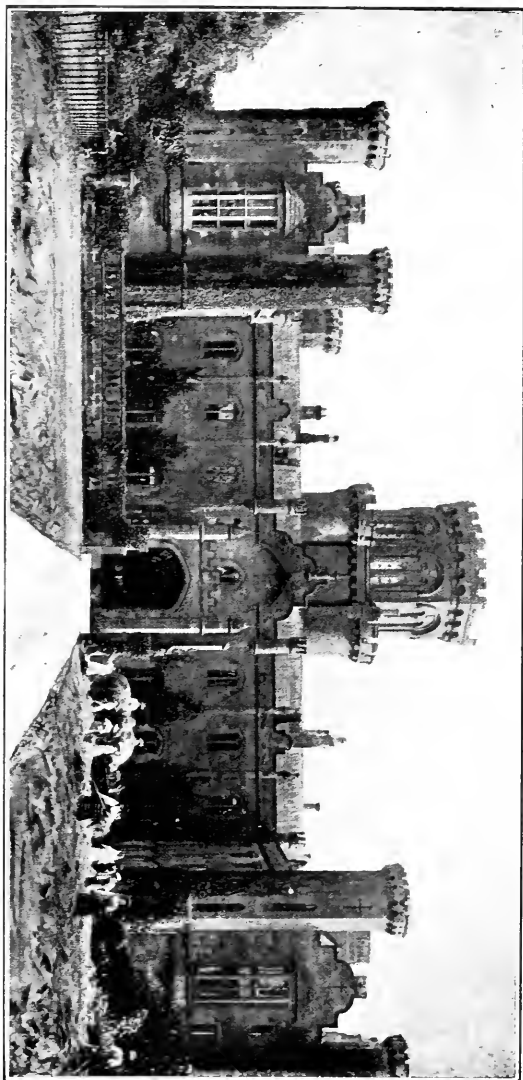
Miss Kerr of Denver stated that at Wolfe Hall Domestic Science has one-half credit, and physics another one-half credit.

The following phases were then considered:

In what year in the high school is Domestic Science generally given? How can it be done when no chemistry or biology is given as a prerequisite? If chemistry follows Domestic Science shall the cooking teacher give elementary principles?

Miss Morgan, Davenport, Iowa, considered that cooking in the first year has a tendency to keep children in the high school. The consensus of opinion seemed to be that the order of work taken and the kind of course given in the high school seem to be seriously complicated with the problem of keeping girls in school by giving them something attractive. With many superintendents and high school masters this is acknowledged. Chemistry as usually taught does not attract hence it is not given, as it should be, in the earlier years as a prerequisite for Domestic Science. The subject matter and method of Domestic Science in the high school must, therefore, be studied together with the new order of studies and the new contents which it is conceded must be worked out in the near future if the high school is to serve the country. The Domestic Science teacher cannot be considered a special teacher, but will become an integral part of the whole system. The school superintendent and the high school master can no longer shirk their responsibility.

It was pointed out that one unit of credit means 400 hours of lecture and laboratory work, or two periods five times a week. Since food work is science, Domestic Science should be inspected as other work is, and should be put in an accredited position, as has already been done by the University of Illinois and the University of Chicago. To teach Domestic Art as a credit



ST. DUNAN'S CATHEDRAL, COLLEGE.

subject theory must be illustrated by practice, like chemistry and physics. (See June, 1909, number of the *Educational Review*).

Mrs. Richards here called attention to the fact that reference had been made to the term Domestic Arts, and stated that Domestic Art teachers had been too frequently left out of consideration. Decorative art is said to be more developed than Domestic Art, but we shall come to consider right spending of more and more importance and hence Domestic Art will develop.

Miss Minnie A. Stoner, of Wyoming, said that the State University is the only place of higher education in that State. Home Economics work as taught in it aims to meet three purposes: (1) General culture; (2) training of teachers; (3) a University School of Home Economics. In the normal department, covering the fifth, sixth, seventh and eighth grades the work in Home Economics has yet to be organized on a scientific basis. No high school in the state is now giving work, but many are planning to do so. It is hoped to help them outline their course of study. Cooperative work with farmers' institutes is handicapped by distances and lack of railroad facilities.

In response to a question as to whether the fifth grade is the best place to start Domestic Science, Miss Gleason, Supervisor of Davenport, Iowa, public school work, expressed a preference for the seventh and eighth grades. Below this, hand work includes some sewing, but the real sewing begins in the seventh grade. There is one period in the forenoon, and one and one-quarter in the afternoon. During the coming year it is expected to have some work in the high school, although this is not definitely planned as yet. Domestic Science has been in the schools some fourteen years, and has proved very successful. It begins by work on doll clothes. The eighth grade work is for the girls themselves,—all hand work. Here the length of lessons is one and one-half hours, which for girls in grades is sufficient. Class work is not sufficient as pupils must have individual instruction. It is still a question whether material shall be furnished by the girls or purchased by the teacher and sold to pupils. No credit is allowed, because there is no high school work.

Miss Sabin, President Milwaukee-Downer College, Wisconsin, (one of the first women's colleges to take up this work), thought Domestic Science to be cultural in its scope. The new high schools

in the northern part of the State are invariably making provision for Domestic Science. It is also taught in one county training school. Technical schools are taking it up. There is an endowed chair of Home Economics in Milwaukee-Downer where over 50 young people are preparing to be teachers of this subject. Teachers of science look with great respect on the application of science to this subject, women's clubs are enthusiastic, and its purpose is so rational that it has appealed to many men.

Mrs. Decker declared that it is all right to teach girls science, but wanted to give the woman on the ranch and farm something and "don't make it too scientific. Housekeeping, a good old-fashioned name, means keeping hearts as well as houses. I wish we could keep this term. We must send students from college prepared to adapt themselves to circumstances. I plead for the training of rich girls so that they may carry their knowledge to the poorer girls who cannot afford to get this training."

Miss Rich, president of the Normal school of Santa Barbara, Calif., announced that Governor Gillett is to accept land from that city for a State Normal school in Manual Training and Home Economics. Here the girls will be trained, the wife and mother trained, the children trained,—this will give a new life. In the university, home-training should be sensible and practical although technical. In public school work the outlook is encouraging. The younger habits will be trained in prevention; in the use of new things, and will not need to have old ways explained.

Miss Tingle of Portland, Ore., spoke of the market crusade going on there. The Portland climate is neither hot nor cold, and as it is easy to live, the people are easy-going, and the market people more easy-going. The Domestic Science teacher in the Y. W. C. A. was asked to do something to improve conditions. "Through the State Health Office, all back doors, etc., were opened. We went to the newspapers; we asked the Woman's Club to go on a tour of inspection. All this was brought about in three days. On the fourth day a meeting of householders was called. The Health Department gave official sanction to the movement. Market men were notified that they must clean up. A clean list and a dirty list were to be made, and they must comply with certain regulations in order to be on the clean

list. I worked two months, and the city once aroused, decided that it was a good thing to have inspection made. A woman now has the office, and has power of arrest. Conditions are by no means perfect yet, but a very different attitude of house-keepers and public exists."

WEDNESDAY EVENING, JULY 7.

The evening session was called to order by the president in Unity Church. An address of welcome was made by Miss Mary Rausch of Colorado Agricultural College. Miss Rausch explained how conditions differed in Colorado from those in other states,—the groups of workers being isolated and made a plea for the practical side. She believed in the scientific side as well, but insisted that fundamentally we must help women *now* to make their homes better.

President Harvey of the N. E. A. declared that no subject in the educational field is more important than fitting girls for their work in life. Home Economics training is being introduced into public and into private schools. Probably private schools may show more readily what can be done, but then the public schools can take it up. Many people all over the country still believe that this work should not be given in the public schools, but at home. However, as farmers are now educated in agriculture we must persist and educate women in the fundamental principles of their vocation as well.

Dr. Thomas D. Wood of Teachers College, New York, spoke on Higher Ideals of Family Life to be developed through this work. In this he pointed out the need of considering the welfare of succeeding generations as well as the more immediate necessities of the present. Instruction concerning life and health, responsibility for the home and parenthood and some of the obligations to the future presented, therefore, in his opinion, the greatest possibilities.

Mrs. Guldlin described the work done in Fort Wayne, Indiana, where rich and poor work together, without social distinctions. Domestic Science has gone into schools because there were a few earnest women in the community who have worked for it. Industrial education must have a place in school even if something must be crowded out to make room for this very essential work.

Miss Emma S. Jacobs, Director of Domestic Science, Public Schools, Washington, D. C., spoke of work in rural schools. In attending farmers' institutes it was found that in many homes the children do not even go to school. There are only little one-room houses, not much room, not much money. She said: "We send a teacher once a week to show how to wash dishes; how to clean, cook, and above all, how to select food. The work has been placed in many schools in Maryland, colored as well as white."

"Another good phase of the work bears upon the question of what to do with defective children. We started them in a home, in practical work in housekeeping. We believe more and more in practical work."

An address by Mr. Robert S. Hoover of the West High School, Cleveland, Ohio, President of the Department of Business Education, N. E. A., completed the session.

THURSDAY MORNING, JULY 8.

The session was held in the Central Christian Church. Mrs. Richards, in opening the discussion said: "Yesterday morning Mrs. Decker made her plea for the three meals a day, clean clothes, and clean dishes, and that women be taught how to do these things. We learn that women are neglecting this, going into bachelor apartments. The wise Home Economics teacher is trying to show how to make family life more simple, more desirable."

Settlement work was then discussed, Miss Treganza describing conditions in Bloomington, Ills.; Miss White in Columbus, Ohio; Miss Gleason in Chicago; Miss Stoner gave an account of work in connection with Teacher's Institutes in Wyoming; Miss Williams of Denver told of five years' settlement work in the Y. W. C. A.; and Mrs. Guldin spoke of settlement work in various places. Miss Howell told of mission work in Topeka and Kansas City, among colored people.

Mrs. Richards spoke of some of the later work as carried on with small groups of eight or ten. The work is most efficient with small groups; it takes more time, money and strength, but something substantial is accomplished.

Diet kitchens and classes for young society women, were described by Miss Kerr, of Wolf Hall. Miss Neff spoke most effectively of work in the school for dependent children in

Denver. Miss Stoner told of the work in the Haskell Home. Here a group of ten children is in charge of one teacher, who gives them an idea of home life. Miss Bartlett of San Francisco described the Smith Homes in Oakland. These are cottages giving girls home life. There are ten girls in each house with a house mother. Mrs. Van Wagenen of Denver told of a home for girls in Denver where the special bent of the child is made the most of.

Mrs. Richards closed the discussion, saying, that the whole note of this work is to give power and the sense of power to do something really well. At present so few do work well, and this is the cause of unrest. Opportunities for children somewhat out of the normal are needed to develop this. What is needed is not merely to teach doing things, but to give the feeling of conquering, which develops power.

A few moments remained which were given to the discussion of equipment for teaching Domestic Art. Miss Bouton stated that at the University of Nebraska there were five sewing machines for 40 girls. Miss Howell said that at the Kansas City high school, with 18 in the class, there were six machines and eight tables. For grades where the work was not at one center group work was arranged, three buildings to a group. Mrs. Richards remarked that this showed good work on meager equipment, but was hard on the teacher.

In the discussion on correlation with other subjects Miss Bartlett reported a connection with civics, Miss Himrod that Miss Sturgis of Rochester, N. Y., has correlated art and Domestic Art, and Miss Vail that papers by Domestic Science girls were passed on by English teachers. It is evident that further cooperation would be beneficial.

SUMMARY.

In summarizing the results of the meeting, we notice: first, that Domestic Science is now a recognized feature in the elementary school curriculum; second, that in the new impetus to the introduction of industrial and manual arts, the girls are claiming and securing their share of attention. There is now full opportunity for concerted work, and for all the good ideas that have been worked out anywhere. The JOURNAL will be glad to offer itself as a medium for this welding process.

In the high school there is found a distinct tendency toward allowing $\frac{1}{2}$ to 1 unit credit for "Food Work" with a scientific basis. But the work in many high schools is yet of an industrial character, or of elementary grade, and does not receive credit. No instance of credit for Domestic Art is reported.

It was most gratifying to learn of the excellent work done in many private schools from the settlement up to the technical college. The work of Pres. Cree T. Work of Denton, Texas, is referred to on the next page of this issue. That of Miss Rich, President of the Santa Barbara Normal School, also deserves special notice and it is hoped that it can be described in a subsequent number.

In the present upheaval of the educational system, the college has come in for its share of criticism and reconstruction, and it is evident that when the work that has survived is determined a full recognition will be given to Home Economics and euthenics.

On the whole, every teacher felt an increase of vigor and courage with which to attack her problems, of whatever nature they may be.

Consideration of the various methods of organization for mutual helpfulness and the desirability of affiliation with the National Society was general among those present throughout the sessions. Most of those in attendance also joined in the sections of the N. E. A. where the subject of Home Economics received much attention. In the proposed consolidation of N. E. A. departments, Domestic Science is named as a branch of the new department of industrial education, so that it perhaps will not be necessary to have another meeting separate from the association at the time of its session.

THE INFLUENCE OF INDUSTRIAL ARTS AND SCIENCES UPON RURAL AND CITY HOME LIFE.^a

President Work maintains that courses of art and science introduced into schools in the past and intended primarily for so-called cultural influence have in the course of development and in the order of a new point of view become industrial in their significance and bearing. This change has affected not so much the terminology of the curriculum as the content of the several subjects, more stress being laid on the teaching of particular applications and illustrations as presented in the daily life of the children; practically every formal subject of the present school curriculum may be held to pay tribute to this, the most vital of all studies, the upbuilding and preservation of the home.

The industrial arts and sciences should be taught in the public schools in order to develop in our children social efficiency, which includes vocational efficiency, demands manual skill, a good store of sense—by which we mean information and the ability to comprehend and heed the demands of environment.

While women have a right to enter independent wage earning occupations outside the home we must consider the danger of making too broad the pathway leading from the home and of obscuring the chief practical department of woman's endeavor. The problem is a complex one and the solution of the difficulty would seem to lie in providing such courses of instruction as will give a combined preparation for independent wage earning for home building and home keeping in the broadest sense. "Our cities are filled with miserable women, heartsick men and blighted homes due to the lack of instruction for girls in the grammar grades and high schools in the fundamentals of Home Economics. They must be instructed in the art of making \$50 or \$60 a month properly support a comfortable home."

One effect of the more general introduction of industrial arts and sciences vitalized with more of the issues of life will be to largely increase the attendance. We shall have more than one per cent of our population enrolled in the high schools and more than five per cent of those entering the elementary schools will

^aAn abstract of the paper given at the Denver meeting of the N. E. A., Department of Manual Training, by Cree T. Work, President College of Industrial Arts, Denton, Texas.

complete the high school course. When we cease to emphasize the instruction that arouses false hopes and ambitions, we shall develop a type of mind more sensible, practical and human.

The term "culture" is an ever-changing name for the ideal results of the process we call education, and there are many for whom the door of culture is through intelligent industry and thought fully directed handwork. "Inspiration may come through a glimpse of the activities of life in well organized operation, and growth and development often result from the full daylight view of humanity in action."

The industrial arts presented in simple concrete form in correlation with other matters of the curriculum give opportunity for directing the energy of children which under the present system is often wasted or worse. It may be indeed better now for the child to leave school and find in the world about him the training we have failed to provide in school.

President Work drew his illustrations from the Texas College of Industrial Arts where an attempt has been made to base the course of instruction on the practical life interests of women. "The physiology and hygiene is taught by a woman physician who also gives instruction in home nursing and care of the sick; the work in chemistry and physics draws on the home for its problems, drawing finds its application in home decoration, designing in millinery and dressmaking and in the planning of houses and furniture; the cooking is closely related to portions of the dairy work, to botany, to zoology, to chemistry, to physical culture and to physiology and hygiene. The mathematics, manual training, bookkeeping and domestic economy are constantly aiding one another and furnishing rich material for the work in political economy and civics. Except for the change from one laboratory to another and the printed titles on the text books, the student would frequently lose sight of the fact that the work which to her is a continuous problem of life interests is in many schools regarded as so many distinct and unrelated subjects."

"The training of our girls in all these practical lines does not mean that they are to be slaves to manual labor or that they are primarily to substitute their skill for that of commercial workers. It means that they will have such a practical and comprehensive view of skill and art and science and industry as to make intelli-

gent use of commercial products and to take an effective interest in the supervision and control of the industrial arts and sciences as they apply to the home."

For the training of our boys and girls in these lines we need properly trained teachers, plans for instruction, especially adapted to local environment and suitable equipment for the work.

In preparing teachers the normal school has a great opportunity. Many normal schools offer as yet no courses in Domestic Science and Domestic Arts in some cases because of inadequate equipment, in others because the importance of these branches and the length of time necessary for their study have not been realized.

The indifference or antagonism of colleges and universities is another hindrance to the rapid introduction of industrial arts and sciences into our secondary and high schools, since they assume that the chief function of the lower schools is to prepare for the college.

In the exigencies and legitimate demands of public education we are justified in introducing into our schools such courses as meet the needs of the vastly larger proportions that are never to enter the doors of the college.

STUDLEY HORTICULTURAL COLLEGE.

This college was founded at Reading in 1898 by the Countess of Warwick, as a college for the instruction of women in the lighter branches of agriculture and removed in 1903 to Studley Castle, Warwickshire. The course of study includes a considerable amount of Home Economics work especially as it relates to rural life. The park in which the College is situated is 340 acres in extent, and includes gardens and glass houses. The founder is responsible for the maintenance of the College, and Lady Warwick is assisted in its management by a committee of ladies and gentlemen. Instruction is given in horticulture, dairy work, poultry keeping, bee keeping, fruit canning and preserving, marketing, manual processes, and business methods, and students are prepared for the National Diploma in Dairying, the Certificates and Diplomas of the British Dairy Farmers' Association, the College Certificate and Diploma in Dairying, and the examinations of the Royal Horticultural Society. The Certificate Courses are usually for one year, and the Diploma Courses for two years, with three years in the case of horticulture and bee keeping combined. The session is of forty weeks' duration, and consists of three terms of about thirteen weeks each, beginning in September, January and May.

The fees for tuition, board and residence range from \$400 to \$600 per annum, according to the course pursued. The number of regular students is between 30 and 40. Nature-study courses of two weeks for men and women are also offered in the summer for which the fees are about \$25.

Instruction in horticulture and related subjects is also offered to women at the Horticultural College, at Swanley, Kent. The full course lasts 2 years, and nature-study courses of 2 weeks are held each August, principally for teachers.

The Munster Institute, Cork, offers courses exclusively for women in the practice of dairy work; instruction in the feeding and management of cows, calves, and pigs; poultry keeping; and domestic work, embracing plain cookery, needlework, and laundry work.

THE FUNCTIONS OF THE TRADE-MARK.

ANNA ROBERTA VAN METER.

This is an abridgment of a paper submitted to the Faculty of the Graduate School of Arts and Literature, University of Illinois, as a dissertation in candidacy for the degree of Master of Science, Department of Household Administration, 1908. The complete thesis contains a summary of data as to the origin and development of the trade-mark and as to trade-mark legislation and its interpretation in the past. Those portions of the article which discuss some of the features which characterize the use of the trade-mark in the modern business world, and the purpose which it now serves in connection with modern methods of distributing goods are here presented.

The present trade-mark a result of changed industrial conditions.—The trade-mark as it is now known is but slightly related to the various marks and symbols used in the early ages in connection with property, and even a century ago it was receiving but scant courtesy at the hands of the law. When now in the space of a few decades it has become the subject of almost world-wide legislation and the object of consideration in innumerable decisions a question naturally arises as to the circumstances that have brought all this to pass.

It is unnecessary to do more than to call attention to the industrial and commercial evolution which has taken place in the last century and a half. One invention after another has come into use, multiplying the power of industry a thousand fold. Transportation and communication are now worked out in ways little short of miraculous. All this has resulted in a general contempt for the small and the slow. The tendency apparently inherent in man to seek to enlarge his personality by any means at his disposal can now work itself out by colossal agencies. If, as has been alleged¹, men have never lost interest in the pursuit of game or in their traps and snares, they find in this machine-transformed system of industry opportunity for the exercise of all their accumulated powers of cunning and strategy. The free use of these has resulted in the peculiar forms of over-grown business personality which we know as monopoly.

¹Thomas, Sex and Society, p. 145.

The trade-mark an agent of monopoly.—Comparing the time previous to the introduction of machinery with the present a modern writer says¹: “A further feature of that precapitalistic business situation is that business, whether handicraft or trade, was customarily managed with a view to earning a livelihood rather than with a view to profits on investment.” Monopolies, however, do not stop even with profits on investments, for the essence of a monopoly is the putting forward of all sorts of capital-extraordinary in a claim for profits. This assumes the modern immaterial form known as “good will” under which head is grouped not only such things as established customary business relations and reputation for upright dealing, but formal monopoly privileges such as franchises, patent rights, copyrights, brands, and trade-marks as well. “The items included,” he says, “have this much in common that they are immaterial wealth, intangible assets; which, it may be parenthetically remarked, signifies among other things that these assets are not serviceable to the community but only to their owners,—they are wealth to the individuals concerned but they make no part of the wealth of nations.”

Of all the forms in which “good will” emerges to make this sort of demand upon the public the trade-mark ranks highest, probably, in its showing of “intangible assets.” The system of protection of trade-mark, says in effect “You may use this mark in connection with your goods, and, no matter whether these are of peculiar merit or not, you will be protected in the benefits of whatever hold you may be able to get upon the public, and this whether the protection means benefit to the consumer or not. It has indeed been pointed out², “how willingly the Legislature has lent itself, by the comprehensive provisions of the Merchandise Mark Acts, to the legal protection of the security enjoyed by ‘proprietary articles’ against competition either in price or quality. A chemist may make Condyl’s Fluid (the well known disinfecting solution of permanganate of potash) exactly in the same way as Condyl, cheaper than Condyl, and better than Condyl, but he must not sell, under the only name by which customers will ask for it, any but the article supplied—it may be under an iron-clad contract—by Condyl himself.”

¹Veblen, *Theory of Business Enterprise*.

²Webb, *Industrial Democracy*, p. 685, note.

This yearning of the law toward the one who may be termed the first comer is but an expression through legislation and judicial decision of the general obsession in the direction of the predatory and the masterful in business enterprise. Under such a system of sympathetic protection the entrepreneur proceeds to extend the territory of his influence by means of the addition of various intangible assets to his capital. To accomplish this he has recourse to two agencies, the one being the primitive marking of his wares with a device or symbol, the other the very modern practice of advertising. The one is of little use to him without the other. Together, however, they are the agents of a form of monopoly all the more effective because its hold upon the consumer is a psychic one to which he unconsciously yields himself. "The aim of the wise advertiser," says a psychologist of advertising¹, "should be the making of his name or brand to be the habitual, recent, and vivid associate with his class of goods." Conversely then, the ideal state of mind of the consumer from the point of view of the advertiser should be one where he says unconsciously, "I know nothing in the matter of supplying my wants beyond the fact that the goods I am to buy and pay for are marked with a certain symbol which I cannot fail to recognize." An incident is related which serves to illustrate such a state of mind on the part of the average customer. Certain purchasers had been led by the successful methods of advertising used by a certain firm of hatters to associate the question of hats with this particular firm. When later their attention was directed to a certain style of hat advertised by another firm they proceeded to the former place and there bought hats which they believed to be the ones they had just seen advertised.

With this end attained by a first comer in a certain field what courses are open to another dealer who would attempt to take a hand in supplying the same kind of goods? Manifestly but two. He may by clever imitation of the first dealer's trade-mark lead the hypnotized customer in the direction of his own goods or he may by persistent advertising succeed in breaking into his former region of attention. In regard to the first alternative the law now of course steps in to interfere, while if he adopts the second he gains little in bringing about the deflection in the consumer's attention from the goods of the first comer unless he at

¹Scott, *Theory of Advertising*, p. 46.

the same time succeeds in directing it in the same hypnotic manner towards his own. If he fails at this point he has left the consumer in a state of mind bordering on intelligence and discrimination as to the direction of his purchases.

Attitude of the courts.—Review of decisions.—If the second comer infringes upon the trade-mark of the first, the care of the court is directed toward securing the owner of the infringed mark in the costs of the advertising which he has put forth in giving to his mark a value worth infringing. At the same time, a favorable decision here remands the consumer to the servitude of the monopoly.

The reasonable expectation upon the part of the public might well be that the courts would in all cases of doubt as to monopoly right in the first comer so decide as to give the consumer whatever benefit might accrue through freer competition. Attention is called in this connection to a few decisions which by the fact of their recency are all the more interesting as illustrations of what appears to be a growing tendency on the part of the courts to disregard the consumer as a factor which might have weight in influencing their rulings. More than this the three cases selected form a strikingly progressive series.

In the English case of *Reddaway v. Hanham*¹, the plaintiffs were manufacturers of belting for driving machinery. They used in its manufacture yarn made from a mixture of various kinds of hair and wool of animals. This they imported from Asia. Although it was not known that the mixed material contained camel's hair the belting made from it was stamped with the words "Camel's Hair Belting." The defendant, a former employee of the plaintiff, having gone into business for himself, began the manufacture of a similar belting using similar material but stamping his product "Arabian Belting." Later, he stamped some of his belting "Camel's Hair Belting" in the hope of securing an order for the particular kind of belting which had come to be known to the trade as "Camel's Hair Belting." He had, however, taken the precaution of assuring himself that the hair mixture used by him did in truth contain a considerable percentage of camel's hair. The court enjoined him from using the words "Camel's Hair Belting" in connection with his goods on the ground that the plaintiffs by long association of the name

¹*Reddaway v. Hanham*, 1896 Appellate Cases, 199.

with their goods had given to the common descriptive words a secondary meaning as designating goods of their manufacture alone. The fact of intent to defraud upon the part of the defendant was it seems also of importance as affecting the decision.

But what is, after all, the point at issue? Simply that the plaintiffs, having incurred certain bills for advertising their goods, seek a monopoly of the market in order that they may be enabled to collect the amount of these bills from the public. We have but to eliminate the question of the expense of the plaintiff's advertising in order to see that beyond that he has no claim.

But it may be argued and indeed the plaintiff claimed that the defendant's belting was of inferior quality, and that the public was deceived thereby. That may have been true in that instance. But in an American case¹ in which the plaintiffs sought to restrain the defendants from advertising as an aluminum washboard one made of an inferior metal, the judge ruled "It is doubtless morally wrong and improper to impose upon the public by the sale of spurious goods, but this does not give rise to a private right of action unless the property rights of the plaintiff are thereby invaded." In other words that the advertiser is not the custodian of the community's interests.

If instead of the case as it came before the court let it be assumed that not only the plaintiff and the defendant but the consumer as well appeared as parties to the suit. Manifestly a decision issuing from the merits of the case gives to the plaintiff the right to manufacture belting from camel's hair and call the same camel's hair belting. It further extends the same right to the defendant and to any others who may elect to take up a like business. It extends to the consumer the right to the benefits accruing from competition and also the right to assurance, possibly through government inspection, that belting intended for use in connection with dangerous machinery is of a certain grade, no matter by whom manufactured.

A second case², may be stated briefly as follows: The complainant manufactured, sold, and advertised a preparation of rennet under the name "Junket Tablets," used in making a food delicacy called Junket. The word Junket, while recognized

¹American Washboard Co. v. Saginaw Manf. Co., Fed. Reporter, v. 103, p. 285.

²Hansen v. Siegel Cooper, Fed. Reporter, v. 106, p. 691.

in the English language as the name of the food, had never been previously used as applied to rennet or any preparation thereof, and, through its use by him in the name of his preparation, had acquired a secondary meaning as identifying his goods. The decision was that he was entitled to an injunction against the use by the defendant, a later dealer, of the name "Junket Capsules" for a similar preparation put up in capsules, but that the latter had the right to designate his preparation as for use in making Junket, provided the word was given no greater prominence than the rest of the designation.

In delivering the opinion of the court it was said: "The dictionaries cited by defendant (Century, Standard) show that the word Junket was recognized in the English language meaning a sweetmeat, or cream cheese, or a delicacy made of curds flavored and served with cream; also a drink made of cream, rennet, spice, and spirits. In view of the fact that rennet is used in the preparation of Junkets, the use of the phrase Junket Tablets, as applied to rennet preparations, may be to a certain extent regarded as descriptive; but evidently the advertisements and demonstrations of complainant have given to the word 'Junket' a secondary meaning associated with the goods of complainant. The case seems entirely within the rules laid down in recent authorities, [among others *Reddaway v. Hanham*]. There is no contention that the complainant's mode of putting up has been copied or simulated. Indeed, inspection of the packages shows that in that respect there has been perfectly fair trading. Injunction will issue, therefore, only against the marking, advertising, selling and offering for sale of the goods as Anker's Junket Tablets or Anker's Compressed Junket Tablets, or any similar designation.

"The injunction, however, will contain the following clause: This injunction shall not be construed to prevent the defendant from marking, advertising, selling and offering for sale under the designation Anker's Capsules for making Junket, or under any similar designation, provided there be nothing in the location, type, coloring, etc., of the word Junket to give it any greater prominence than the rest of the designation."

From the writer's standpoint this case is more interesting than that of *Reddaway v. Hanham* for the reason that here the court goes a step farther in the direction of giving protection to the

first comer. "The phrase Junket Tablets," said the judge, "as applied to rennet preparations may be to a certain extent descriptive; but evidently the *advertisements* and *demonstrations* of complainant have given to the word Junkets a secondary meaning associated with the goods of complainant."

But notice farther. "There is," he says, "no contention that the complainant's mode of putting up has been copied or simulated. . . . in that respect there has been perfectly fair trading."

The case of the plaintiff in this suit is further weakened by the reasonable presumption that, since Junket is a dish known to the housekeepers of several generations, at least, infusions or other preparations of rennet were sometimes spoken of as Junket material. Indeed, a more evolutionary view of the case may be postulated by imagining a child sent to a neighbor's to obtain rennet for making junket. On the way the name rennet slips his memory. Many agreeable experiences, however, have served to impress on his mind the name Junket. He therefore, extricates himself from his dilemma (albeit shamefacedly) by making request for some "junket stuff." Left to himself, the demand of the consumer is likewise the simple one for "junket stuff." The plaintiff had, however, spent money in an attempt to change this natural demand into an artificial one directed towards his own goods, and it must be conceded that it is upon the fact of this situation fundamentally that the decision of the court rests.

The case of *Cash v. Cash*¹ may be stated in a few words. In 1895 the firm of J. and J. Cash of Coventry, manufacturers of frillings known as Cash's frillings, was converted into a limited company. Joseph Cash, one of the members of the old firm, was made one of the directors of the company but under bond not to resign or to enter into business for himself under five years. In 1898 he obtained permission to resign his directorship. He then formed a company known as Joseph Cash Ltd. and began the manufacture of frillings and other trimmings. As the result of a suit brought against him by the earlier company his business was enjoined, the court holding that it was impossible for him to manufacture frillings, etc., without the same being known as "Cash's frillings."

This case may be regarded as a striking illustration of the acute stage of this peculiar yearning of the law toward the "first

¹*Cash v. Cash*, 84 L. T. N. S. 349.

comer." The evidence showed that the defendant was released from his contract with the plaintiff by mutual consent. There was no contention that he was using similar marks or labels in connection with his goods. Further, the reasonable presumption is that he had previously helped in building up whatever good will the business already possessed in association with the name Cash, and that his goods were of equal grade with those of the original company. Granting, now, that the public demanded "Cash's frillings" in preference to any other, upon what grounds did the court base its decision granting monopoly rights to the first company and in what way was the public served thereby?

In *Reddaway v. Hanham*, the second comer was enjoined from using descriptive words in marking his goods, upon evidence of intent to defraud; in the *Junket Tablets* case the second comer was enjoined from using a descriptive word in designating his goods, the evidence showing no premeditation of unfair trade; in *Cash v. Cash* the second comer was enjoined from manufacturing goods under his *own name* upon the presumption that the use of the latter would create direct competition with the goods of the first comer.

Interdependence of the trade-mark and advertising.—Many writers have pointed out the interdependence of the trade-mark and the modern advertising system. In one instance¹ reference is made to the "good-will" of the first comer as depending upon industry, merit, and *vast sums spent in advertising*. Notice may be directed to the interesting cycle indicated by the statement that the modern colossal growth of advertising is absolutely dependent on the power of the law to protect the trade-mark². Another writer³ says "It is not a simple matter for a new product to gain that confidence and popularity [possessed by one well known]. Enormous outlays for newspaper and other forms of advertising must be made, if a new preparation is to be brought before the American public, and popularity can be kept up only by keeping up the advertising."

Cost of advertising.—"The cost of this advertising often forms a heavy burden upon the price of the product." Further it may be said that "if some prepared breakfast cereal is retailed at fifteen cents a box, the largest part of the price undoubtedly represents

¹Two Centuries' Growth of American Law, p. 442.

²Ibid, p. 437.

³Rubinow, J. Pol. Econ., v. 13, pp. 576 et seq.

cost of advertising." This statement cannot be considered extravagant if it is remembered that advertising space in the popular magazines is considered cheap at \$540.00 per page¹ which represents, as a matter of course, a sum equal to the retail price of thirty-six hundred packages of cereal at the price mentioned. In the case of those retailing at ten cents per package five thousand four hundred packages would be required to pay for one full page advertisement in a single issue of one periodical. Or, let it be assumed that one such advertisement leads to the sale of ten thousand eight hundred packages at ten cents per package. One half the amount realized will then serve to pay the cost of the advertisement, while the remainder must be made to provide for the raw material used, cost of manufacture, profits on investment, expenses of wrappings and transportation, together with the wholesale and retail profits involved in getting the entire output to the consumer.

Again, when we find three breakfast foods, extensively and persistently advertised, each claiming to be a special kind of corn preparation and all retailing at the same price per package of given weight, the utter wastefulness of the modern system of advertising is perhaps more clearly shown. In this case there may be little or no choice as between the merits of the three preparations, and yet the consumer is importuned from every bill-board to choose one above the others. But no matter which one she may select she pays for it reflecting, if she cares to do so, that the price asked includes not only cost of production plus profits, but also inevitably a definite proportion to the sum which the firm has seen fit to play in the game of advertising. The object of such a struggle as this is of course in the interest of the brand or trade-mark which it is hoped will give to the user a peculiar advantage over competitors, and although the three brands may be at present in practical equilibrium of influence each one in the hope of finally gaining some advantage is willing to hold to the original course so long as the consumer pays the bill without question.

Attention is called to a means of advertising as obvious as the bill-board system, only to suggest the expense of such items as leases, construction and repairs, to say nothing of salaries and travelling expenses of solicitors connected with it.

In contrast with this is the rather subtle method of calling attention by means of demonstrations of their merits. Of special

¹Harper's Magazine Advertiser, April, 1908, Testimonial L. E. Waterman Co.

interest in connection with the Junket Tablets case is the fact that for many years during which this preparation has been on the market the manufacturers have maintained a demonstrator in the grocery department of a large department store in Chicago. Nor is she alone in this work. A visit to the store shows demonstrations of one kind of goods or another on every hand, inquiry bringing out the information that the number carried on from day to day ranges from twenty to thirty. The salaries paid these women by the manufacturers they represent are about double the wages received by the regular clerks in the store. The competition here is in most cases as keen as that in other forms of advertising, demonstrations of rival brands of lard substitutes, cocoa, and what not, being carried on side by side. In the opinion of one demonstrator the scheme is very much overworked and will soon have to be abandoned in favor of some more effective method. Incidentally, of course, all this gives employment to a number of people, but any discussion of an adjustment of benefits which it may be possible to make between an artificial employment and the artificial demand upon which the employment is based is entirely beyond the scope of the present paper.

Attitude of the consumer.—It now remains to inquire why the consumer makes so little effectual protest against all this encroachment upon his interests. A partial explanation is found in his lack of adjustment to what may be termed a remote source of supply. As has been said, "When most men bought their wares at the maker's door, there was little need for a mark of identification on the goods." Now, however, the consumer is appalled by the impersonality connected with the supplying of his wants. Confused and bewildered by the magnitude and variety of the offering, he is glad to seize upon any sign or symbol which may have come to have a friendly or reassuring association. The trade-mark and the dictatorial advertisement appear to him as guides in the wilderness.

Further the whole subject of consumption is found receiving little attention at the hands of economists themselves. It is small wonder then that the individual consumer submits unthinkingly to many forms of dictation as to the direction and cost of his purchases.

In the home, the headquarters, so to speak, of ultimate consumption, it may be observed that where one housekeeper makes

a definite study of her needs and of the means for supplying them thousands of others look no further in the matter than the question of brand or price. Take as illustration a commodity in such general use as baking powder. The demand is made not for a certain grade or quality except in so far as these may be associated with a certain known brand. In the course of her experience she finds a cream of tartar baking powder satisfactory, but, instead of knowing it as such and as costing to make (including profits all along the line) some twenty-eight cents a pound she knows it only under some special trade name at fifty cents a pound. Contrast this attitude with that maintained by one who may be termed an intelligent purchaser of the same class of goods. The following extract is from a letter received from the president of a well-known firm of bakers. "At one time in the early ages," he writes, "we did buy an extensively advertised brand, but on investigation found that we were paying for advertisements in addition to the actual value of the baking powder¹." Again the prevalent predisposition of mind toward admiration and approval of business enterprise leads the consumer to contribute unconcernedly or even boastfully toward his own undoing.

An excellent illustration of this may be found in a book² in which the author in discussing the theory of advertising, sets forth clearly the forces, not to say tricks, which must be brought into play by the advertiser if his goods are to obtain a psychic hold upon the public. Schemes for making the small appear large and the short appear long are explained without apology. And although the writer is himself a consumer pure and simple he declares in conclusion that he shall feel the book has accomplished its mission if it shall assist business men to any extent in acquiring this *necessary knowledge*, or if it shall throw light upon the true principles of a most important part of modern business.

Whether the consumer is influenced in his choice by either bewilderment, ignorance, or deliberate misapprehension of his own position, to just that extent has he yielded up his bargaining power.

Summary.—To summarize it has been seen that in the modern system of distribution the trade-mark is intended to give a cur-

¹ While the firm in question cannot be regarded as consumers of baking powder, their position in the matter of its selection is no more advanced than one which could be taken with profit by any consumer in supplying his personal wants.

² Scott, loc. cit. pp. 163 and 233.

rency and acceptability value to the goods with which it is associated greater than that inhering in the goods themselves; that this value consists in the psychic hold which the goods may have attained on the public through the medium of advertising, and also that the cost of this advertising is added inevitably to the price of the goods. Further, in connection with many situations, the advertising is no longer a legitimate instrument for giving information but is rather the wager in a desperate and costly game played in the hope of holding the field. At the same time the public through the medium of the courts or through its own ignorance, carelessness, or mistaken endorsement of the present militant system of business has contributed to increase the insignificance now attaching to its own role as consumer.

The situation, however, is not unique among many that have arisen in connection with aggressive enterprises. Many agencies in themselves of valid service to society have been so selfishly promoted as to become little short of oppressive. New methods of transportation and communication came as a boon bringing much in the way of convenience and satisfaction in social intercourse. But while the public has been absorbed in self-congratulation the machinery of these things has been precipitated upon it bodily. It is possible to travel fast and far, but the street before the door cannot be crossed in comfort or safety. Messages flash through vast space, but in the din of it all the voice of conversation is swallowed up.

There is no plea here for a return to the crude simplicity of other days when goods were "bought at the maker's door." Nevertheless the evidence is offered as showing that individual initiative, however essential it may be to social progress, is in no wise to be trusted to restrain itself at the point where it begins to transcend the interests of those whom it is supposed to serve.

AN ESSAY ON DIGESTION: 1825.

LAFAYETTE B. MENDEL.

The modern theories of the functions of the digestive glands and their secretions form a part of the science of nutrition so significant and so intimately concerned in it that we rarely appreciate the intellectual struggle once caused by the advocacy of these views. The pioneer work of Dr. Beaumont in his studies of digestion has left an indelible impression on the history of physiology, especially in America. In a paper published earlier in this JOURNAL^a reference was made to some trends of physiological opinion in this country at the opening of the nineteenth century and previous to the classic researches on Alexis St. Martin, "the man with the lid on his stomach." The work of Reaumur and Spallanzani which established the chemical, solvent action of the gastric juice upon the basis of experimental observation had begun to attract attention in the teaching of the oldest medical schools in America. Hunter's observations on the post-mortem "erosions of the stomach" were likewise drawn into consideration.

The status of the physiology of digestion at the period to which reference is here made may best be outlined by a few quotations from a popular book of that time, edited by a well known Philadelphia teacher.^b The relative part which the stomach plays in the alimentary changes is pointed out very clearly.

"The stomach has ever been considered as the principal organ of digestion, yet its function in that process is but secondary and preparatory: it is not in the stomach, that the principal and most essential phenomenon of digestion takes place, I mean the separation of the nutritive from the excrementitious part of the food."

After an entertaining critique of the older hypotheses broached to explain the mechanism of digestion, viz. concoction, fermentation, putrefaction, and maceration of the food taken into the cavity of the stomach, the author outlines what we may interpret as the newer ideas then current.

"The gastric juice not only pervades and dissolves the food received into the stomach, but it unites and ultimately combines with it, completely alters its nature and changes its composition.

^aJ. Home Econ. 1, (1909) p. 255.

^bRicherand's Elements of Physiology, with notes by N. Chapman, M.D., Philadelphia, 1813.

The gastric juice acts, in a manner peculiar to itself, on the food exposed to its action, and far from inducing a beginning of putrefaction, suspends on the contrary and corrects putrescency. . . . However powerful the efficacy of the gastric juice to dissolve the alimentary substances, it does not direct against the coats of the stomach its active solvent faculty. These parietes endowed with life, powerfully resist solution. . . . But when the stomach and other organs have lost their vitality, its parietes yield to the solvent power of the juices which it may contain, they become softened, and even in part destroyed, if we may believe Hunter. . . . It is now pretty generally admitted, that digestion in the stomach consists in the solution of the food in the gastric juice. This powerful solvent penetrates, in every direction, the alimentary mass, removes from one another, or divides its molecules, combines with it, alters its inward composition, and imparts to it qualities very different from those which it possessed before the mixture. . . . It is highly probable that its chemical composition varies at different times; that it is acid, alkaline, or saponaceous, according to the nature of the food. Although the gastric juice be the most powerful agent of digestion, its solvent power requires to be aided by several secondary causes. . . . one might therefore say, that the process of digestion is at once chemical, mechanical, and vital; in that case, the authors of the theories just broached, have been wrong in ascribing to one cause, such as heat, fermentation, putrefaction, trituration, maceration, and the action of the gastric juice, a process which is the result of a concurrence of these causes united."

Another contemporaneous picture is drawn by Philip in his *Treatise on Indigestion*.^a

"It has been ascertained by the experiments of Spallanzani and others, that the stomach secretes a fluid capable, even out of the body, of converting the food into such a mass as that into which it is changed in the stomach, immediately before it is sent into the duodenum. This fact leaves no room to doubt, that it is by the agency of the above fluid that the food undergoes the change which is effected on it in the stomach; and it appears from the observations of Mr. Hunter, that such is the power of this fluid, that it corrodes the stomach itself when deprived of the vital principle by which it is enabled to resist its action. When to these facts we add, that by means of the muscular power of the stomach, the food, when duly prepared by the action of the gastric fluid, is propelled into the duodenum, we state the sum of our knowledge on this subject."

On the basis of his observations the author then adds this interesting summary quite in harmony with present-day conceptions of the location of the digestive activities in the stomach.

^aThe quotation is from the Philadelphia edition of 1823.

"From all that has been said it appears that the process which the food undergoes in the stomach is that of being formed into a mass, in appearance nearly homogeneous; that this process takes place only on or near the surface of the stomach, and that, in proportion as the food there situated undergoes the necessary change, it is by the muscular power of the stomach moved on-wards towards the pylorus. . . . till the whole contents of the stomach have undergone this process, the digested contents being regularly discharged into the duodenum."

It must be frankly admitted—and this deserves due emphasis even to-day—that the progress made was an outcome of the introduction of the experimental method. Conclusions were at length based on observation rather than argument and analogy. As an illustration of the sophistries with which the progressive science of physiology was obliged to contend in its earlier days in this country, and of the energy with which the opponents of the newer doctrines met the issues, I wish to review a long-forgotten monograph: *A Physiological Essay on Digestion*, published in 1825 by Nathan R. Smith, M.D., then professor of Anatomy and Physiology in the University of Vermont. Dr. Smith was the son of an eminent teacher and well-known medical writer of the day—Dr. Nathan Smith of Yale—under whom he studied medicine, receiving the degree of M.D. in 1823. At about the period of publication of the essay on digestion he spent some time in attending lectures at the University of Pennsylvania. Whether the teachings which he may have heard there had an influence on the paper before us is not apparent. The immediate purpose of the essay is to deny the validity of the then current teaching regarding the solvent powers of the gastric juice and the theories of digestion based upon it. Beaumont, it will be remembered, had not yet published his *Physiology of Digestion* which definitely silenced such views as Smith promulgated in this paper dedicated "to those whose talents and candour elevate them above the local and personal partialities and prejudices, which characterize too many of our profession." Contributing no essential, new observations, the author contented himself largely with an attack on "the present mode of reasoning on these subjects." The point of view, quite foreign to our present day notions, was summarized in these words:

"When we confine our inquiries to any particular science, with the laws of which we are unacquainted, and reason from an effect

to a cause, which in its operations we know to be controlled by those laws, there need be no fallacy. But, if we enter another field of science, the laws of which we have not investigated, and reason from an effect to a cause, we shall almost certainly fall into an error, for we unconsciously attribute the effect to a cause with the operations of which we are familiar. Thus, if we combine two inorganic substances, and after a time, observe that a remarkable change has taken place in their properties, we at once, and with propriety, attribute it to the influence of chemical affinities; for we know that such substances are exclusively under the control of physical properties. But if we convey certain substances into the stomach of an animal, a polypus for instance, and upon removing them after a considerable time, discover that they have become very much changed, having received new chemical and sensible properties, it is altogether unwarrantable to infer that these changes are wholly the effect of chemical influence; for as the stomach of this and every other animal is imbued with certain vital properties, and as we are not yet fully acquainted with their laws or uniform habits of action, we cannot say how much, in this instance, is to be attributed to their influence.

"That similar effects, then, in any particular science are referrible to the same cause, is generally true; but that similar effects in two distinct sciences, the cause being known in one, are referrible to the same cause, is, in principle, false."

The scientist of modern times would find less consolation in fixing the limits of knowledge as did Dr. Smith.

"How much more happily then are we circumstanced," he writes, "than were the earlier physiologists, who for the want of these simple truths, exhausted the efforts of many great minds upon subjects which the author of nature has rendered incomprehensible. For centuries the efforts of the human mind have been lost; occasionally indeed a transcendent genius has intuitively fallen upon an important truth, but without being conscious of the mental process that led to it, and, of course, without being able to establish any uniform principles of reasoning, which should confirm his own discoveries and lead on to others; hence the world has been but little benefitted by those flashes of truth, which found and left it in the darkness."

Experiments on animals must be accepted with the greatest reserve, in Dr. Smith's opinion; arguments drawn from analogy "are often exceedingly useful."

Dr. Smith realized, indeed, that the "chemical theory of digestion" was winning the confidence of the medical world; "so confident are men of science in its imperishable nature that all our systems of physiology and pathology are founded upon it as

their corner stone." He was prepared to meet a formidable opponent. Here are his own words:

"The earliest writers on this subject, were of opinion, that the change effected on the aliment in the stomach was little else than the result of putrefaction. Unsophisticated in the logic of the natural philosophers and chemists, they supposed the food to undergo the same change which warmth and moisture effect upon it out of the body. But when the physical sciences had made some progress, and men of learning were habituated to reason almost exclusively on physical principles, the mechanism of the system was alone talked of, and the stomach wrought mechanically upon its contents. As chemistry began to assume the character of a science, it also, was very prolific in physiological explanations, and digestion was wholly chemical.

"It were ridiculous in us, as it has appeared in many writers, on this subject, to inflict, like Falstaff, a new stab on these dead theories, for the sake of making the victory, in part, our own. As shown in our introduction, they are obviously inconsistent with principles of medical logic, now well established. We enter the field armed with our sling and stone, (common sense and truth) against a far more formidable adversary, in the prime of life, mailed in all the sophistry of the age, and backed by universal approbation."

Let us examine the objections formulated by Dr. Smith.

"It appears," he writes, "that Chessel den, Reaumur, and Spallanzani were led to anticipate the existence of a powerful solvent in the stomach, from comparing the changes which the food undergoes in that organ, with results obtained in their laboratories.

"This was evidently predicting the means by which Nature should accomplish her ends, in one department of science, by observing what she has done in another, in which the properties of matter, and the laws by which they are exerted, are entirely different.

"It is only in the character of humble enquirers, who submit themselves to the guidance of such facts as they may discover, that men have extended the boundaries of knowledge.

"Were it impossible that the changes effected on the aliment in the stomach should be accomplished in any other way than by a mechanical or chemical process, their conclusion would be just, for there could be no fallacy in reasoning from an effect to a cause, the operations of which we are acquainted with. But, knowing the distinction which exists between the physical and physiological sciences, it is not only possible, but even probable, that this change is wrought by a cause, the operations of which we are but little acquainted with. It is incumbent on those, therefore, who maintain the above position, not merely to show

the effect, but to demonstrate unequivocally that the gastric fluid possesses such properties as are capable of producing the effects attributed to it, or to show that they can be accomplished in no other way."

The author very properly calls attention to the uncertainty of the evidence regarding the assumed acid properties of the gastric juice—a feature which it will be remembered was not definitely established until late. He lays emphasis on the reports of Montegre tending to show that outside of the stomach the gastric juice "is as inert as water." At the present time it seems probable that this investigator was dealing with swallowed saliva in his much quoted experiments. With regard to the classic observations of Hunter that erosions of the coats of the stomach may take place after death, Dr. Smith rejects the idea that "this (gastric) fluid acts thus upon the dead stomach, with an energy equal to that of the most powerful acids."

"Who, therefore, will undertake to say, that the above mentioned erosions of the stomach are effected by a fluid, secreted by that organ, and possessing remarkable chemical properties, because it is impossible that they can be accomplished in any other way? We know, very well, the extreme vascularity of the stomach and that its capillary vessels, and particularly its absorbents, act with unparalleled energy. We know also, that different portions of the stomach derive their vitality from different portions of the nervous system. Is it not possible, therefore, to conceive that one part of the stomach, having lost its vitality, may be acted upon by another which retains it? It is by no means incumbent upon me to make out even the probability of this supposition, the bare possibility of it is obviously sufficient for my purpose."

How Smith accounts for the disappearance of food from hollow balls introduced into the stomach—the widely quoted experiments of Spallanzani—will be referred to presently.

Here is the essence of the theory of digestion which he proposes:

"My proposition is, that the first step of digestion is effected by capillary veins, originating in the villi of the stomach with absorbing extremities, and terminating in the great branches of the vena portae. The arguments in favor of it are drawn from the results of certain experiments, from the nature of the change effected on the aliment, from the analogy of plants with animals and from the anatomy and pathology of the digestive organs."

We are thus better prepared to understand another of his objections to the chemical functions of the stomach. He argues:

"If this opinion be correct, digestion is the only instance in the animal economy in which an important change is wrought upon a large volume of matter in any of the large reservoirs. All the changes, which are effected upon the aliment after its mingling with the blood, are wrought in the capillary vessels of the lungs and the nutrient vessels of each tissue to which it is appropriated. In fine, all the changes which are wrought upon the blood, either for more perfect animalization, secretion, exhalation, or any other purpose are wrought in the capillary tissues, where the circulating fluids, becoming exceedingly attenuated, are subjected to the peculiar action of the vessels which convey them. No changes are wrought upon the blood in the heart or in any of the great blood vessels.

"Glandular structures appear to be little else than congeries of minute vessels, for the purpose of increasing the surface with which the contained fluids are in contact and thus subjecting them more fully to their peculiar action.

"Is it not surprising, therefore, that so great a change can be effected upon a large mass in the stomach, when, to accomplish changes much less important, it is necessary that the matter acted upon should be made to pass through vessels indefinitely multiplied? It will presently be seen that, by the hypothesis which I offer, this difficulty is not incurred, since, by that, the more important part of digestion itself is effected in the capillary vessels."

The subsequent fate of the gastric chyme has even until very recent years been the subject of uncertainty. By earlier writers it was assumed to be converted into the chyle of the lacteals in some vague way and there to be endowed with distinct "animal properties." Smith recognized the weakness in the current statements and adapted it to meet his newly promulgated views. Some physiologists maintained that by the action of the bile, etc. in the duodenum the chyle was prepared for the lacteals.

"I will hazard the assertion," writes Smith, "that there was never a particle of what was ascertained to be chyle, obtained from any other source than that of the lacteals or thoracic duct. The existence of chyle in the intestines has been presumed from the belief that the lacteals have no power to effect a change on their contents, and that consequently they were taken up precisely as they are found in them. If this be the case, the conclusion is palpably false, for who can say that the lacteals have no peculiar actions by which their contents are wrought upon? . . . I think it may be with safety asserted, that no animal properties can be demonstrated in any substance which has not been subjected to the action of capillary vessels."

Sufficient details of this unique explanation may be considered here in order to elucidate the author's conception of the digestion process.

"On the supposition that the villi of the stomach act upon the aliment as suggested above, electing from it such principles as are subservient to nutrition, the appearances of the chyme are precisely what we should expect. The sensible properties of chyme suggested to some of the older anatomists the idea that the aliment, was, in the stomach, attacked by a myriad of small worms which reduced it to the uniform pulpy mass of this substance.^a

"That this may be effected by a myriad of absorbing mouths, the changes which take place in the aliment render not improbable. An extremely minute mechanical division would of course be effected upon it, and perhaps many substances would be decomposed, some of their proximate principles being taken up. A change in the sensible and chemical properties equivalent to what we actually discover would of course take place. We should also expect that the chyme be variable in its appearance as the food employed varies.

"The manner in which different portions of aliment are successively changed is also much more satisfactorily explained by our hypothesis, for that only can be acted upon which is in contact with the surface of the stomach. This, as stated by W. Philip, by the peculiar action of the muscular coat of the stomach, is made to give place to another layer and the digested portion is conveyed to the pyloric extremity. The appropriate motions of the stomach are constantly evolving the central parts of the mass and bringing them in contact with the surface."

Attention was drawn to the analogous action of the "radicles" of the stomach and those of plants in the soil. Each draw nourishment into an organism.

"By the prevailing theory of digestion, however, an action, by no means analogous to that of the radicles of plants, is attributed to the villi of the stomach, for these last are supposed merely to exhale a fluid which acts chemically upon the contents of the organ. Thus too, the digestion of an animal must be less under the control of vital or organic properties than that of the humblest plant; for in the latter, nothing appears to be left to the agency of physical properties, but all to be accomplished by the vital or organic powers."

Smith attempts to anticipate criticisms of the views which he presents:

^a"Perhaps they were as near the truth as those who consider the process to be performed by a chemical agent, for neither the existence of these wonderful worms, nor of the not less wonderful fluid can be proved, and if we reason from the effect alone, we should with more propriety ascribe it to the former."

"It might, perhaps, be thought that if the veins of the stomach, in addition to their transmitting the blood which they receive from the arteries, do also absorb and convey so great a volume of aliment, they should be found in greater numbers, in proportion to the arteries, than in other organs.

"In reply, it is only necessary to call to mind that the arteries of the stomach during digestion are exhaling as great a volume of fluid as is absorbed by the veins. Here we may notice, too, in the supposition, an interesting correspondence of action which supports the doctrine of venous absorption.

"That the arteries of many organs copiously exhale, no one doubts. That the veins absorb is not so demonstrable; but when we take into consideration the relation between the arteries and veins, that the arteries convey the blood *from* the center of the system, and that the veins *return* it, absorption is certainly the function which, in the veins, corresponds to exhalation of the arteries."

From one who warns against the "perplexing sophistries" of his colleagues, the following feeble attempt at a real explanation of a physiological phenomenon will appear surprising to say the least.

"How it is that these phenomena are accomplished, we cannot say. Perhaps they may be taken up in a state of extreme comminution, and perhaps they may be resolved, by the powers of life, into their ultimate, or in some instances, their proximate principles.

"That our food, solid and fluid, should be taken up by the veins of the stomach with sufficient rapidity to be subservient to digestion, is certainly not absurd. Vascular and nervous as the stomach is, we are to presume that its vital energies, in this respect, are far superior to those of any other tissues in the system. The surface, too, which it presents to the food, when we consider its folds and papillae, must be very great.

"The villi of the intestines are known to perform absorption with great energy, and that of a substance which does not appear to be altogether fluid. The villi of the stomach are certainly more numerous than those of the intestines and, *a priori*, we might fairly presume, from their anatomical structure, that they performed the same function with greater energy."

Smith's *Essay on Digestion* was written in an early period of the author's career. He lived to win distinction in a different field—that of applied surgery. The document just reviewed has little interest in a purely biographical way; this product of the author's younger years is presented merely to throw a sidelight on the history of physiological studies in America prior to Beaumont's remarkable contributions.

IN DEFENCE OF SAMPLERS.

MRS. JENNIE L. K. HANER,

University of Idaho.

It is not my intention to create a discussion, through the columns of this magazine upon the question of "samplers or no samplers" for Domestic Art courses, but rather to submit, by way of comparison with the experience of others, my opinion, which is the outcome of careful consideration and twelve years of practical application in Domestic Art classes.

I am in sympathy with the idea that something practical and useful would be a wiser outcome of the time spent, if it only could be so. I would favor a plan by which a new pupil in music would be put right on to parts of a finished composition so that when he had all these once gone through with, he would have something with which to regale his friends instead of finger and primary exercises, if this plan were feasible. Instead of the first little scrap and sample exercises in the cooking class, how much better if the things cooked could be in sufficiently large quantities to make them practical and useful in a club or boarding-house where others as well as the cooks themselves could test their values! But this cannot be.

It is quite true that one loves to do the things one knows how to do, thus the first pre-requisite is to learn how to do them. An article or garment, like the rendering of a musical composition, or the preparing of a dinner for guests, is first an ideal in the mind of the girl, and to have that ideal crushed by failing in her endeavor to execute it before she had learned perhaps the first rudiments of this valuable "know how" is hazardous and too apt to deaden the interest and enthusiasm which are the secrets of her later success. To see, as quickly as possible, the finished piece according to the ideal or pattern, is the aim uppermost in her American mind, and to be hindered by the "know how" with its perhaps repeated heart-breaking attempts is almost more than she can bear. She would truly rather throw her piece of work into the fire than submit it for criticism, and with it too often the main feature of her effort, the desired mark for her grade.

Far more generally I have found the following to be the truth. A girl who has had no systematic instruction hardly hopes to see a

practical piece grow out from her inexperienced manipulations with needle and thread, and thimble and scissors. But if she has but the simple "learning how" in her mind she will apply herself to little useless scrap with all the determination, persistence and perseverance, painstaking accuracy, and patience which it is in her nature to summon, and generally, all these go to make up an interest which results in encouragement, pride, knowledge, conscious power, and a good degree of satisfaction besides the portfolio of items for future reference in case she should forget. Then too, the estimate put upon this little encyclopedia with all these evidences of true educational drill and development in judgment, neatness, orderly arrangement, carefulness, exactness, ability to see and execute, showing forth from her finished product, will warrant the mark which will help greatly to build up a higher and stronger ideal, and a greater determination through this conscious power which, later applied to advanced work, results in practical value of some degree of true worth.

In Home Economics, as in all subjects in a school and college curriculum we must aim first at its importance as a school subject, its educational value; its power to unroll or unfold from within the nature of the girl the inherent powers which she may bring with her, then, with these developed, trust her to put them to their utilitarian applications to the betterment of herself, her home, her community and her nation.

FOOD HABITS AND CUSTOMS OF CENTRAL AFRICAN NATIVES.

H. L. KNIGHT.

Since early times the Mountains of the Moon in the heart of Equatorial Africa have been one of the great mysteries of Geography. Ptolmey's description of the mountain range was after a time regarded as a fable and it is only within recent years that geographers have become convinced of the actual existence of snowcapped mountains in this region. Stanley saw the white topped peaks in the distance but was never able to explore the region much as he wished to do so. A number of travelers have penetrated portions of the range but the mystery was not solved until the remarkable exploration of the region by the Duke of the Abruzzi.

He has given the name "Ruwenzori," a native word meaning mountains of the moon, to this mountain chain. The recently published volume, "descriptive of the expedition, is a delightful account of exploration and adventure in one of the strangest regions of the world. The expedition landed at Mombasa, and after a journey by rail some 600 miles across British East Africa, a region which only a few years ago was an almost impassible wilderness, took steamer at Kisumu, or Port Florence, on Lake Victoria for Entebbe. Roughly speaking, the steamer route follows the Equator about 200 miles, keeping to the south of the islands in the upper end of the lake, much of the time being out of sight of land.

"The sleeping sickness has turned into vast graveyards the greater number of the beautiful and fertile islands of the archipelago. After depopulating whole districts of the Congo, it appeared in Uganda between 1900 and 1902 and has spread further and further, following the main routes of communication, invading step by step the territories of the Baganda, Basoga and Kavirondo, and making gigantic inroads even to the point of 40,000 victims in one year. The sleeping sickness is especially fatal to men in the prime of life, and hence whole villages and islands may be found tenanted by women and children who alone have survived."

^aRuwenzori. An Account of the Expedition of H. R. H. The Duke of the Abruzzi, by Filippi de Filippi, London, 1909.

At Entebbe began the journey through tropical forests to the Mountains of the Moon. As a result of the expedition the extent of the range, the direction of the valleys, the streams flowing from them, the height of the principal peaks, and other important features are known, and a great deal of valuable information has been accumulated regarding plants and animals of the region and other important topics.

The range lies just north of the Equator, between Lakes Albert Edward and Albert, which are fed from its melting snows and are important sources of the Nile. The plant life of this mountain range is very varied, ranging from the tropical vegetation of the low slopes and valleys to the few Alpine plants found just below the line of perpetual snow. Many of the trees and plants are unfamiliar.

"The whole valley on every side as far as you could see was one mass of luxuriant vegetation of indescribable strangeness. The ground was carpeted with a deep layer of lycopodium and springy moss, and thickly dotted with big clumps of the papery flowers, pink, yellow, and silver white of the helichrysum or everlasting, above which rose the tall columnar stalks of the lobelia, like funeral torches, beside huge branching groups of the monster senecio."

Without doubt each person reads with special pleasure in such a book as this the passages which contribute to the subject in which he himself is most interested, and those who are studying nutrition problems will find many statements regarding the camp equipment, the ways in which the food problems of the expedition were solved, and much information regarding agriculture, food supply, and customs of the native tribes with whom the expedition came in contact.

While the stores of the expedition were being carried on board the steamer at Port Florence there was time for a visit to the native market of Kisumu. "Here the natives assemble in great numbers from the neighboring villages, mere groups of huts surrounded by a hedge. . . . The crowds of men and women come across the level country, carrying on their heads baskets woven with great art out of grasses. . . .

"The market is held in the open air or under sheds erected on purpose. It consists mainly of small traffic in dried fish, sweet potatoes, grain and bananas. The buyers stand in groups around

the sellers, who crouch or sit on the ground beside the baskets of every conceivable shape which contain their wares. Men and women smoke the short straight pipes of the country. Others circulate hither and thither with that buoyant and elastic tread, like the gait of a wild animal, which comes from the habit of moving without the impediment of clothes."

The camp outfit was carried by native porters from Entebbe to the mountain range where the work of exploration began. "The whole camp outfit, including tents, beds, sleeping bags, stools, tables, baths, cooking utensils, the hermetically sealed cases containing clothing; the photographic materials, and the materials for the zoological, botanical and mineralogical collections; the arms and ammunition, formed 114 loads weighing about 47 lbs. each, all numbered and so marked as to be immediately recognizable.

"The commissariat formed 80 additional loads of the same weight, each one of which contained rations for 12 persons during one day. The supplies had been laid in on a calculation of a sojourn of 40 days above the snow-limit, and of a period of the same length below, to allow for the journey from Entebbe to the mountains and back. The rations were in tin boxes, soldered, and enclosed in thin wooden boards. The only difference between the high-mountain rations and those for the lower regions was that the latter were without tinned meat, because it would be easy to find fresh meat supplies throughout the inhabited regions.

"According to calculation 194 porters were needed to carry the entire equipment. In addition to these there were the caravan leaders, the personal servants, or 'boys,' with their own porters, the natives who were needed to take care of the horses and mules, and who were to drive the oxen, goats and sheep which were provided for the sustenance of the caravan, and other natives, with sundry minor attributions. The total mounted up to above 300 persons."

In the journey through the tropical forests the route follows a native path or road. "The contrast with the open tracts enhances the charm of the forests. After crossing a slope scorched by the sun, the traveller enters into the profound shade heavy with the perfumes of acacia, mimosa, jasmine, and honeysuckle.

"The district is fairly populous, but the inhabitants are so hidden away among their banana groves and impenetrable grasses

that it is possible to pass quite close to villages without noticing them. They consist of clusters of huts usually situated half-way up a hill, surrounded by tufts of bananas, little cultivated fields and a few forest trees. The huts are of the usual conical type. The circular roof thatched with grass straw is artfully constructed to reach down to the ground on every side except over the entrance, where it is cut short and projects into a low narrow porch. The interior is encumbered by the numerous pillars and posts which support this heavy roof. Some of the huts are surrounded by an enclosure, or even by several enclosures, so that three or four courts must be crossed to reach the house.

"The land around the huts is cultivated for a short distance only. As is usual in tropical countries, the indolence of the population limits the production of the soil to the amount which is strictly necessary to sustain life. There is no trace of co-operation. Each family owns its hut and its field, which it cultivates for its own exclusive use. Agricultural labor is performed entirely by women. They cultivate plantain, egg-fruit, potatoes, sweet potatoes, beans, maize, dura, cotton, sesame and sugar-cane. A delicious fruit, always cool and refreshing, is the pawpaw.

"The banana, or plantain, is the staple of diet. There are several varieties. Besides the sweet banana, which is eaten ripe and raw, there is a plantain which is gathered unripe and eaten cooked. From the flesh of another variety a sort of bread is made. The juice is pressed out and forms a refreshing, cool drink called Mbisi. This becomes alcoholic and intoxicating if allowed to ferment, and is then called Mwenge. Finally the leaves and stalks are used for various purposes. The origin of the cultivated banana is uncertain. Botanically it is quite different from the wild native banana, and it is doubtful whether it could have been derived from it."

On this journey the camp sites were selected in advance.

"The encampments were always situated at a certain distance from the villages, in places selected beforehand and prepared for the purpose. There was usually a hut where meals were provided for the Europeans, and one or two sheds to shelter the equipment from the weather. Around the sheds stood the European tents. . . . The tents were surrounded by a zeriba or enclosure of plaited cane which served less as a defence than as a

means of dividing the European camp from that of the native porters.

"The native porters would arrive at their destination at a run, singing and shouting, throw down their loads hastily on the spot fixed for the purpose, and immediately set to work to build huts for their own shelter. The huts would spring up all around with the most marvellous rapidity. The method of construction is most ingenious. A number of slight rods or flexible canes are stuck into the earth in a circle. Their upper ends are bent so as to meet in the middle and interwoven so as to form a dome. Upon this are placed bundles of grass disposed in such a manner as to leave a narrow opening for the entrance. Thus in less than a quarter of an hour a vast grassy plain is transformed into a considerable village. While the work proceeds, there arrive from the neighboring villages long files of women and old men carrying on their heads parcels of fruit and sweet potatoes wrapped in plantain leaves. Swarms of naked children accompany them. The tiny ones are carried on their mothers' backs in a fold of their garment. In this way the caravan lives entirely on food supplied by the population of the regions crossed." . . .

"The most remarkable and changeful spectacle was presented by the swarming native camp, with its deafening racket and perpetual excitement, dominated by the incessant rolling of drums and the inharmonious strains of uncouth musical instruments, the loud cackling of poultry, the bleating of flocks and lowing of cattle." . . .

"As evening closes in, the camp is lit up by hundreds of fires, around which the porters sit until far on in the night, roasting the sweet potatoes, or boiling the plantains which, with the addition occasionally of a little dried fish, form their sole diet.

"After a march of five or six hours over heavy ground, carrying substantial loads on their heads, this frugal meal was amply sufficient to their simple needs. Banana wine is a rare luxury, while water is scarce and filthy, with a disgusting smell and taste even when boiled." [111]

At almost every camp some native chief would pay a visit to the Duke, "surrounded by retainers bearing the umbrella and stool, the insignia of power, and followed by a train of ministers and a bodyguard armed with lances and staves.

"The rear was usually brought up by a crowd of natives driving goats and sheep, or even calves and bulls, and bearing baskets full of fowls, eggs and bananas, to be presented as gifts to the strangers."

"The Duke, or some member of the expedition chosen to represent him, would next return the chieftain's visit and present a gift, usually quite moderate in proportion to the value received. The dwellings of the chiefs are circular huts, with walls of plaited reeds and the usual native roof. The interior is divided by curtains into various rooms. The walls are adorned with illustrations from European periodicals. The floors are covered with mats and skins. There is usually a fair supply of chairs and cushions. The whole is clean and orderly. The hut is surrounded by several zeribas. In the courts between the zeribas are huts for women, slaves, soldiers, etc."

In this part of the journey more or less game was obtainable.

"Now and again a shooting party would set forth. Guinea-fowls and doves abound in the plantations around the camps. The region is rich in elephants, zebras, antelopes, lions and leopards. This sort of game, however, requires special beating, and is not compatible with the rapid marches of a caravan bent upon a totally different aim. It was only very seldom and at a great distance that an occasional antelope was seen fleeing from the approach of the party."

When the mountain climbing and other severe work of the expedition began it was necessary to replace the Baganda porters with natives who were better able to endure the hardships.

"The Baganda are a people of the plains, and evidently incapable of enduring the fatigue of mountain marches. It had now become obviously necessary to replace them by Bakonjo, who are acclimatized to this valley and accustomed to climb its slopes in the chase after marmots and hyraz."

The Bakonjos are "tall men of robust habit, with somewhat prominent jaw. Their hair is either shaven or disposed in strange fashion, and they frequently wear a small beard. Their skin is tanned by the sun, the rain, and the cold, and is hard and rough as leather. They wear a piece of cloth hanging from their loins, bracelets of metal or cord around their arms and legs, and a fur pouch suspended from the neck for pipe and tobacco. Some wear a leopard skin over their shoulders, or a cloak made of

rabbit pelts (hyrax) stitched together. . . . They carry long staves on their march and use them with great skill in the difficult places."

"The moment a halt was called during a march, in less than no time the natives would have kindled a fire and be enjoying a fine blaze and smoking their pipes, and it was not always easy to induce them to start again promptly. They were once found on the road, shivering in the rain and stark naked, having taken off their vests and blankets so as to enjoy to the full the heat of the glowing coals. They ate eagerly whatever food was supplied to them, but they did not like the novelty. They made wry faces before making up their minds to swallow tea, and far preferred their mess of dura flour, which to us seems nauseating, to the white wheat flour, even when prepared with butter.

"In spite of these trying conditions of life, the Bakonjo showed admirable patience and docility. It was very rare, indeed, for even a single porter to refuse to go on with his load, although they nearly always got their feet swollen and hurt by the stones."

One of the principal camps was made of necessity in a valley where the ground was covered with boulders and dense vegetation and the almost constant rain and cold added to the general discomfort.

"Poor Igini, the cook, had the hardest life of all. He was the only one whose activity was confined within the ring of deep mud which turned the camp into a close prison. Squatting between four boulders, hedged about by the cases of rations, the kitchen implements, the fire, and the tent, he had far less chance of exercise than during the polar winter which he had spent in Teplitz Bay, [during the Duke's expedition to Mt. St. Elias, in Alaska], where he was forced to go half a mile to fetch the meat of some bear hung up by the ship, or had to work to disinter the cases of rations, or help to run after the dogs."

After the work of the expedition was accomplished the return journey was made over practically the same route as that followed to the Mountains of the Moon. No one can read the admirable account of this expedition, written at the Duke's request by Filippo de Filippi, without realizing that the Duke of the Abruzzi has not only planned and successfully carried out a remarkable journey of exploration but has made a very substantial and important contribution to geography and to many other fields of knowledge.

THE DAILY MEALS OF SCHOOL CHILDREN.^a

A Digest by Miss E. W. Cross.

In this bulletin the author emphasizes the necessity for the adequate nourishment of school children and suggests plans for accomplishing this which may be used as a basis for discussion.

"It is costly to educate a child," she points out, "and the cost may become waste if educational advantages are offered to those who are dull because of improper feeding, or who are underfed and ill-nourished." The energy for bodily growth, for play and for clearness of the brain to study is produced from food and the problem is not only to ascertain the right amount but also to preserve "the relative proportion of the various so-called food principles."

School authorities have experimented with serving lunch in the school to the many underfed children, administering not only to the bodily needs, but developing the cultural side as well. The child is only a part of a larger problem since for every underfed school child there is probably one at least too young to be in school and many suffering adults. "The question of feeding school children in general may, however, properly be regarded as an educational one, if it can be shown that the ordinary education of the schools can be made of greater value to the pupils if food is served by the school authorities, or if it can be shown that there are certain facts about food and certain habits of eating which should be given as part of public education, and which can be given to young children best by the laboratory method, i. e., by actually serving food in the school."

The educators in public schools are not able, as a rule, to carry out ideals because of lack of funds and we find our best models in the practice schools connected with well-endowed colleges and in many private schools. Reports are given from schools "which are striving to be models." The Speyer School, New York City, supplies every child from the kindergarten to the third grade with a cup of milk and a graham cracker at half past ten. The child pays for the food if he is able, but if unable he is fed with the others. In the Hebrew Technical School for Girls in New York City every girl is given a cup of milk or cocoa in the

^aBy Caroline L. Hunt, U. S. Bur. of Education Bulletin, 1909, No. 3.

middle of the morning. At noon soup is sold by the school for one cent a bowl. It is reported from both schools that there is a marked improvement in physical condition and orderly ways. Perfect sanitary conditions and careful attention to physical training have aided in this development.

Those in charge of backward children have always adopted the plan of feeding the children in the school. Miss Farrell, now in charge of the ungraded schools of New York city, reports an interesting experiment made by her when she was a teacher. "Of the class of twelve boys who sat down to the first school lunch only one had sat at table with his family. If the habit of sitting down to a table decently and in order is as valuable as we are inclined to consider it, it would seem as if every child ought to have a chance to taste of its advantages and to decide for himself whether it is a custom he wishes to continue in later life or not."

Sufficient money must be put into the experiment of the school lunch to make it educational, otherwise "the entire work would seem to fall more properly to charitable organizations or poor relief boards." "It was the recognition of the dangers lurking in the food sold to school children and also the realization of the vast educational opportunities that were being thrown away, that led Mrs. Eilen H. Richards in 1894 to bring her very valuable work of serving simple luncheons to the students of the high schools of Boston."

In establishing school lunches the school authorities cooperate with organizations for improving social conditions, as in the Lake View High School of Chicago, the associated club being the Ravenswood Woman's Club. The school lunch seems specially adapted to the rural schools. Mrs. Richards^a has made many valuable suggestions for such an undertaking.

The dishes prepared by pupils in Domestic Science are utilized for lunch in the Trade School for Girls, Boston; the Normal School, Honolulu; Hebrew Technical School for Girls, New York City; and the High School of Practical Arts, Boston. Serving the lunch in the school affords an opportunity to make it a means of education in house-furnishing and gives an opportunity to impress lessons of hygiene. It is desirable to have the con-

^a*Good Luncheons for Rural Schools without a Kitchen*, by Ellen H. Richards, Boston, Whitcomb & Barrows, 1908.

struction of the room, its decoration, and its furnishing of such a character that they may serve as models. The lunch room at Lewis Institute, Chicago which occupies a light, airy room on the fifth floor, has served as a model for many high-school lunch rooms. By example it has probably influenced the location of other school lunch rooms, "for the practice of putting lunch rooms into unattractive basements, so common elsewhere, has never gained a foothold in that city." While they have the check system those who serve food do not handle money. The democratic policy prevails,—teachers, students and employees eating in the same room and generally waiting on themselves.

In the Ethical Culture School, New York City a hot lunch is served every day. The students are divided into two groups, all of each group sitting down at one time. The Friends' School, Washington, D. C., arranges for students to pay for lunches by the year, or they are allowed to buy single lunches or certain articles of food. Rochester, (N. Y.) high schools cooperate closely with the board of health. Milk from tuberculin-tested cows only is sold and other foods are most carefully watched.

The most common method of serving in high schools is from a counter. The trays should be on the counter near the door and sandwiches next on the counter. It is convenient to have glasses, silver and napkins placed at some distance from the end of the counter.

The bills of fare in high schools where ideals prevail do not differ greatly in content or price. In the Lake View High School, Chicago, the equipment is paid for by the board of education, and running expenses are met by the sales of food. They are able to sell the following for five cents each: Soup, meat pie, vegetables, salads (except potato), light desserts (including ice cream), tea and coffee. In the Ethical Culture School, New York City, the lunches are ordered a week ahead of the time of serving, therefore there is but little risk of having food left over. The service is better and the prices are correspondingly higher. In the Horace Mann School where 600 pupils are served daily, the cost of equipment (including chairs, tables, counter and the table furnishings) was about \$2,500.

"Those who have charge of the selection of food for children at home or in the school should have some knowledge of the proper proportions of the different kinds of food needed to maintain a

child of school age in proper physical and mental condition." It is explained that dietaries are usually expressed in terms of protein, fats, carbohydrates, mineral matter and fuel value. The fuel value is given in terms of the calorie, and the gram is taken as a unit of weight. The statement of Dr. C. F. Langworthy^a that the average adult in the United States is daily supplied with about 100 gms. of protein, 150 gms. of fats, and 350 gms. of carbohydrates, with a total fuel value of 3,240 calories is quoted together with his estimate that children of from 2 to 5 years of age eat about four-tenths of this amount, those between 6 and 9 eat five-tenths of it, and those between 10 and 12 years of age take from six-tenths to nine-tenths. On this basis, a child from 6 to 9 years of age would require 50 gms. protein, 75 gms. of fat, and 175 gms. of carbohydrates. This would represent a day's menu such as the following:

Breakfast: Orange of medium size, cooked oatmeal, $\frac{1}{3}$ cup; milk and cream mixed, $\frac{1}{2}$ cup; toast, 1 slice; butter, $\frac{1}{2}$ cubic inch; milk to drink, 1 glass.

Dinner: Whitefish, 3 oz. as purchased or $1\frac{1}{2}$ oz. edible portion; potato, 1 small; celery cooked in milk, $\frac{3}{8}$ cup; bread, 1 slice; butter for bread and potato, 1 cubic inch; rice pudding, $\frac{1}{2}$ cup.

Supper: Egg; toast, 1 slice; butter, $\frac{1}{2}$ cubic inch; milk 1 glass; prunes 3, cooked with $\frac{1}{2}$ level tablespoon of sugar; cookies.

The weight and composition of the various articles of food in this bill of fare are given in the table on the following page:

Mrs. Richards^b gives a list of foods which might constitute the daily diet of a child from 6 to 9 years. These foods supply 56 gms. of protein, 47 of fat, and 207 of carbohydrates. If the fuel is taken from the starch and sugar and less from fat we would have the same figures. Fats for the child's diet should be secured "from milk and eggs and from the butter and cream used at the table." If "made dishes" are used not only is too much fat introduced into the diet but it is in a most indigestible form.

An unlimited amount of properly cooked cereal and bread is allowed "except when it takes sugar to make them acceptable

^aFood and Diet in the United States by C. F. Langworthy. Reprint from the Year-book of U. S. Dept. of Agriculture, 1907, pp. 361-78.

^bFirst Lessons in Food and Diet, by Ellen H. Richards. Boston, Whitcomb & Barrows, 1904.

Weight and composition of the foods given in the foregoing bill of fare.

Articles of food.	Weight.	Components.				Fuel value.
		Protein.	Fats.	Carbohydrates.	Mineral matter.	
	Ounces.	Grams.	Grams.	Grams.	Grams.	Calories.
Milk	18½	17	20	25	3.7	376
Cream	1¼	1	7	1	.2	71
Fish	3	9	2	.....	.6	61
Bread	3½	9	Trace	52	1.1	266
Eggs	2	7	5	.....	.5	79
Rice Pudding	4	5	5	24	.9	165
Rolled oats	½	2	1	10	.3	58
Cookies	½	1	2	11	.1	68
Potatoes	2	1	Trace	11	.6	48
Prunes	1¼	1	.....	21	.7	90
Celery	2	Trace	Trace	2	.5	11
Sugar	¼	.....	.....	7	.....	29
Oranges	4	Trace	Trace	10	.4	43
Butter	1¼	Trace	30	.....	.1	282
Total	44	53	72	174	9.7	1,647

... Limit sugar to small amounts in desserts or in the form of candy. Fruits, preferably cooked, and vegetables should form a part of the daily diet."

The child up to the age of nine gets the protein "he needs from 4 glasses of milk, one egg, and the bread and cereal he takes. There seems little reason to add meat to his dietary."

A comparison is made between cost of food and wages and the deduction "may indicate why so large a percentage in our schools appear undernourished."

What is stated to be probably the most thorough and valuable investigation of under-feeding that has been made in this country is that which was carried on in Chicago during the summer and early autumn of 1908 by W. L. Bodine, Superintendent of Compulsory Education, and Dr. D. P. MacMillan of the Department of Child Study and Pedagogic Investigation. "It was estimated that in addition to the 5,000 really necessitous children, there were at least 10,000 so poorly nourished as to be unable to do their school work well." In Chicago the use of any part of the school funds for the purpose of feeding indigent children, however, has been declared illegal. A similar situation in England was met in December, 1906, by an Act of Parliament permitting local school authorities to use funds for this purpose.

"It seems to be universally conceded that Paris has the best system of feeding the school children that has been worked out by any municipality." Since canteens are attached to the public schools situated in all districts "they may be said to be retained as an educational policy rather than as a relief measure." This makes them of "more interest to educators than the examples . . . of schools where food is furnished chiefly to the needy." Certain cities of Germany, Austria, Denmark, Holland, Norway and Sweden, Spain, Switzerland and Italy furnish free meals to school children. The expense is either met by charitable organizations or the municipality and, in some instances, by both.

From this examination of conditions and suggested remedies it seems obvious that there are two problems before us, alike in many respects but differing in others. One of these, the problem of the underfed child, is a problem chiefly of poverty; the other, that of the feeding of school children, is a problem chiefly of education.

MALNUTRITION IN SCHOOL CHILDREN IN NEW YORK CITY.^a

In a paper read at the Sixtieth Annual Session of the American Medical Association at Atlantic City, June 1909, Dr. E. Mather Sill of New York City reports the results of an extended study of malnutrition and its treatment carried on in the congested lower East Side of New York. The work was undertaken with a view to ascertaining as far as possible the etiological factors, which to a large extent are the cause of undernutrition of city children, especially of the school age which he considers to be very prevalent.

"The subjects were all taken from the laboring and tenement-house classes and the parents were mostly foreigners. Each little patient, after having a careful physical examination, was weighed, a full history obtained from the mother through a trained nurse who spoke her language, and anything such as tuberculosis, syphilis or other diseases that would have a bearing on the condition of the child carefully noted. Then the following questions were asked the mother: 'What does the child get for breakfast, for dinner, for supper? How many rooms have you? How many in the family, including boarders? Do you keep your windows open at night to allow the circulation of fresh air, and air the house in the day-time? When does the child go to bed? Does the child eat between meals—candy, etc.? How often does the child get a tub bath? Is the child in a grade with children of its own age at school?'"

The answers to these questions were tabulated and the examination in Dr. Sill's clinic of the 210 malnutrition cases showed that 83 per cent of these children depended practically on bread with tea or coffee for their diet. Only 10 reported an egg for breakfast. A fairly large proportion (116) reported meat-soup and potatoes for dinner, and 136 reported meat-soup for supper, but as previously stated, bread was the principal food of the majority when all three meals are considered.

Spargo, as Dr. Sill points out, records that of 12,800 school children in New York, 2,950, or more than 23 per cent, attended the public school breakfastless or provided with miserably poor

^aJournal American Medical Association, 52, (1909), June 19, pp. 1981-1985.

breakfasts. Dr. H. M. Lechstrecker, according to Dr. Sill, examined 10,707 children in industrial schools of New York. "Of these, 998 had coffee or coffee and bread only for breakfast; 439 or 4.10 per cent no breakfast; 998 or 9.32 per cent were anemic, owing to lack of nourishment. Only 1,955 or 17.32 per cent, started the day with an adequate meal."

These figures, it is evident, indicate the same condition of affairs which was found in Dr. Sill's studies.

In the 210 families examined in Dr. Sill's investigation the average number of rooms per family was three, and the average size of the family six, which is estimated to provide an average allowance of 600 cubic feet of air space per person.

"Sixty-two per cent kept their windows closed. Fifty per cent of the children ate between meals—candy, etc.; 12 per cent were in a grade at school with younger children. Of these children, 21 per cent went to bed at 8 o'clock, 40 per cent went to bed at 9, 24 per cent went to bed at 10, and 12 per cent went to bed at 11. These children were all under ten years of age and should have been in bed at 7 o'clock."

Bathing was infrequent, for the baths ranged from once a year with four per cent to a weekly bath with only 18.5 per cent.

"We found that all these malnutrition patients were decidedly under weight for their age compared with the weight of normal children, the discrepancy varying from 4 to 16 pounds. Many children were found to be of the same weight as normal children who were from one to three years younger and in extreme cases there was even a difference of four years, and the cases were not picked but all malnutrition cases just as they came.

"The ages of these children were from three to ten years but the great majority (175) were from six to ten years (or the school age). One thousand other children in the primary schools, in the Jewish quarter on the East Side were examined by me. Of these 40 per cent were found to be poorly nourished, under weight and more or less anemic. These were, therefore, malnutrition cases. These children were from six to twelve years of age. Eighty-six per cent had dental caries, 90 per cent had adenoids, 40 per cent had hypertrophied tonsils, 6.5 per cent had defective hearing, 10 per cent had defective vision, 4.5 per cent had tuberculous lymph nodes of the neck, 1 per cent had pulmonary disease, 0.4 per cent had cardiac disease, 0.8 per cent had chorea. . . ."

Seventy-five per cent of the 210 patients examined showed enlarged cervical glands. While only 100 of the children were tested for tuberculosis a positive reaction was found with 55 per cent.

"Practically all these children had defects and complications other than the malnutrition, the variety and percentage of which was very much the same as those found in the children examined in the schools. . . .

"It was observed that many of these children were in such a condition that they had no desire for good nourishing food and, indeed, could not retain it, because their stomachs had become so accustomed to the tea and bread or coffee and bread diet. The mother would say when told what food the child required, 'But, doctor, she will not take it.' Von Noorden accounts for this condition by stating that the activity of the digestive organs during starvation is lowered and the secretion of saliva, gastric juice, bile, and intestinal secretions diminish. In many of these cases the stomach had to be gradually educated to a stronger diet and the children were treated just as one would treat convalescents from disease."

Many who have studied such problems were not able to test the value of improved diet and other hygienic measures in the treatment of malnutrition cases as was Dr. Sill, and his report is therefore of special interest.

"In the treatment of this condition the first duty should be to instruct the mothers in the schools and clinics, either by word of mouth or printed directions, as to what foods are best for the growing child, which are the most nutritious and healthful for the money, the best way to cook different foods, what articles of diet to avoid, and the necessity of plenty of fresh air and sunlight, and cleanliness. Warm clothing is a necessity.

"These children should be given a highly nutritious diet, that is, foods that contain a large amount of proteid material."

Such proteid foods were selected as beef, eggs, chicken, fish, ham, bacon, dried beef, milk, flour, oatmeal, dried beans and peas. With respect to the food which he found most valuable in these cases Dr. Sill states that he placed the children on a diet "consisting of milk (a quart a day), cocoa, eggs, red meat (once a day), fowl, fish, bread and butter, and cereals, such as oatmeal (of which 94 per cent of the nitrogenous matter is proteid), farina,

hominy, corn-meal, rice, pure olive-oil, and cream should also be given if possible, with vegetables, such as spinach, stewed tomatoes, stewed corn, cauliflower, baked and creamed potatoes, purees of beans or peas, and baked beans, and fresh fruit, such as oranges, pears, apples, raw and baked, and in the form of apple sauce, and stewed prunes. The children were ordered to stop school, be out in the open air as much as possible, open the windows at night and air the room thoroughly by day, go to bed at 7 or 8 o'clock and take a rest in bed for an hour or two after the mid-day meal. Bathing was encouraged for the purpose of cleanliness, and a salt-water bath followed by a vigorous rub for its stimulating and invigorating effect."

"It is surprising how rapidly these children improved and gained weight with no other medication than a simple iron tonic. Some gained as much as a pound and a half a week.

"A mixed diet, both in animals and in man, is usually taken better and the nutrients are more completely digested and assimilated than when only one food is used. Variety in foods of the same nutritive value stimulates the appetite and prevents the patient from tiring of any special food."

"Vegetables should be given in abundance since the vegetable proteid carries with it a large amount of potassium salts, which are the predominating salts in muscles, neutralize acid products and forestall rheumatism. Wheat flour and wheat bread have a high nutritive value."

The figures cited by Dr. Sill and by other investigators leave little doubt that undernutrition of school children is widespread, and that it is a serious condition whose causes should be sought and for which remedies should be provided.

"Poverty," Dr. Sill concludes, "is an important factor in the causation of this chronic starvation or ill-nourished condition, but ignorance on the part of parents plays even a more important part—ignorance as to food-values, ignorance as to cooking, ignorance as to how to live, ignorance as to cleanliness, fresh air and sunlight. Although very few mothers had a proper idea of what foods were nourishing, or how to cook foods properly to make them nourishing, all were willing and glad to be instructed, and it seems to me that just here lies in a measure the partial solution of this problem. Since the mother who loves her child is by far the best instrument the state can employ to see that that

child is properly nourished, fed and cared for, and in providing for its real education, the mothers are better than teachers, school managers, medical inspectors or attendance officers. It is economy to educate and improve the mothers and in that way guide the natural love to be an effective help in bringing up children to be healthy and useful citizens.

"Visitation of the homes of underfed children and instruction of mothers would wonderfully reduce the number of these underfed children. The employment of the mother is responsible for many neglected children; given a father out of work or sick, and the mother must take in sewing or go out to work, with too often the result of underfeeding of not only the children, but herself as well. . . .

"Is it fair to suppose that a hungry child, wasted and weakened with the attendant conditions of lassitude, irritability, nervousness and anemia, the result of prolonged underfeeding and bad housing, can study in school for five hours with scarcely any intermission?

"Although great advancement in the science of education has been made in the past twenty-five years, the physical condition and development of the child has been grossly neglected. When the child has a poorly developed and weakened body, little can be expected from it in the way of mental development or advancement. The duty of the nation is, first of all, to care for the proper feeding and housing of its children and so to insure their proper growth, development and health. . . .

"No doubt the so-called stupidity or backwardness of many children in the public schools is simply the result of neglect and underfeeding. . . .

"Von Noorden, from experiments on man and animals has deduced the following law: 'The expenditure of energy during starvation diminishes in the same proportions as the weight of the body, apart from extreme degrees of emaciation or adiposity and with moderate bodily exercise by day and normal hours of sleep by night.' The operation of this law of Von Noorden, then, would account for the lassitude, nervousness and loss of energy seen in these children. . . .

"The growing child, requiring a highly nutritious diet, requires also a great deal of fresh air to oxygenate the food properly. This requisite is impossible, as we shall presently see, with the

housing conditions as they are. The conditions of overcrowding in New York, (and in fact in all our great American cities) has become a most menacing one. . . .

"When actual figures show that six people on an average are crowded together in three small rooms, two of which are often inside rooms, the sum total of the air space in these rooms averaging about 3,600 cubic feet, (which is only half the air space that six people should have) is it any wonder that so many are in such pitiful condition of health and the contagious diseases and tuberculosis are so prevalent in this quarter?"

As regards remedies Dr. Sill believes that the present condition of affairs in the congested districts of large cities in this country could be entirely changed and controlled by suitable laws.

"This can never be accomplished by private charity but must be dealt with and provided for by the state and national legislature; since laws governing these things are necessary for the public safety, health, and welfare."

"A child is a valuable national asset and its welfare and healthy development is of great importance to the state, which should be legally under obligation to look after it. Children who are starved, through negligence, ignorance, or poverty on the part of the parents should be fed as every child has a right to be fed; there ought to be no such thing as a starving child in our land, especially in the public schools, where children are under the daily observations of their teachers. It should be the public duty to see that such children are provided with nourishing food.

"In England, Scotland and France, nourishing meals are given many of the schools at a slight cost, and are paid for by tickets previously purchased by the parents. Many meals are given free. This has been done in a few schools in this country with success. No distinction is made between those who pay for these meals and those who are unable to do so.

"Let us remember that the future as well as the present is our concern in considering this great problem. Shall we civilized people allow our poor to be fed and housed worse than our domestic animals? If these horrible conditions are allowed to continue and rob the masses of their vitality, what can we expect the next generation to be? There can be but one answer, one outcome. Look to London's Stepney for the answer."

ANOTHER VIEW OF THE SUNSHINE LAUNDRY.

HESTER RIDLON.

Simmons College, Boston.

"Trifles make perfection"—is a saying nowhere better shown than in the work of cleaning—especially that process called "laundering." It is by the high ideals upheld and the scientific standard of the work, that the Sunshine Laundry has held the attention of the laity and of the world of Home Economics.

We are always prone to feel either that women are not taking their full share in the world's work or that they are rash in undertaking a "so-new" field. Yet statistics show an increase of nearly threefold in the last fifteen to twenty years in the number of different occupations in which women are engaged. And here we must realize that the Sunshine Laundry stands as a pioneer. Started ten years ago by the Misses Mary A. and Grace G. White, it has prospered under their guidance and proprietorship, and shows today on its books forty per cent of the names written there in the first week of its business.

The Sunshine Laundry is situated just outside of Boston, Mass., in Brookline Village on the edge of the Parkway. It is a two-story frame building with a great many windows and skylights, painted a creamy yellow, and seems to radiate sunshine and cleanliness. As one enters, on the immediate left are the offices, glassed off from the rest of the floor. An atmosphere of quiet activity, orderliness, and immaculate cleanliness is evident everywhere. On the second floor this is even more marked, for the many women workers are an unusually cheerful and pleasant group, as they naturally would be in a place so well lighted and ventilated.

In following the stages through which articles pass in the process of laundering we will begin in the far northwest corner of the second floor; the whole floor being partitioned into three general rooms or divisions. All incoming goods are received from a lift, and are "marked in." Except in the case of the shirts, collars and cuffs, all these articles are marked, not on the piece itself, but on a bit of tape, which is then sewed to the article. Next, an expert woman examines each piece and decides whether it needs mending, the removal of stains or

other special care,—and thus directs its further course in the wash room. A competent seamstress is constantly employed by the laundry to mend those pieces that will be definitely saved by a few stitches—such as large rents, buttons, etc.,—or those things which the customer asks to have mended and pays for.

As a rule each load brought in by a driver makes a “lot,” and each lot is kept separate from other lots in a general way throughout the whole laundering process. The lot, being marked, goes to the wash room. Here all colored things that need special care, and all fine and elaborate articles are washed by hand. The other plainer things are done in the steam washers. It is, therefore, possible to wash successfully a large percentage of the things by steam and probably with less wear than if they were done by hand. Other reasons why machines are used in washing are because a better color can be obtained, and because hand washing increases the cost to the consumer. Next the clothes must be wrung, and this is done in machines of a centrifugal nature, run by steam. Inasmuch as wet tissue paper was not torn when tried in one of these running at high speed, little need be said about the safety and advisability of steam wringers for the clothes,—and by this means that degree of dampness is retained which is best for the perfect ironing of that article.

Some things are then sent directly to be ironed, while the rest pass on to the third critical process,—the starching. Special care is taken to have the specific article starched as it should be, or, in some cases, as the customer has definitely requested. Special care is taken of the collars, which are hung over a bar, and not by the buttonholes, and in drying them and all starched things quickly, as an aid in securing fine results.

From this room we pass into the third, or ironing room, which takes up about two-thirds of the floor, with east, north, and south exposures. Here one remarks the unusual fact that everything is ironed by hand, except the collars and cuffs. Polishing, or small irons are used on the starched or detailed work, like embroideries, and large irons on the rest of the garment. Collars are dampened between moist cloths, then they and the shirts are pressed for a definite length of time in hydraulic presses, to ensure an even dampness. The collars are ironed by passing flat between heated rollers heavily padded, the crease dampened, and the collar turned and finished by hand. Handkerchiefs have

special care. No marks are put on them. In order to keep those of each person or family together, they are enclosed in cotton bags and then thoroughly washed by steam. In ironing, the handkerchiefs, those in each bag are also kept together, and when finished they are marked by labeled strips of paper encircling each pile. When finished, all these things pass by elevator or by hand to the main floor, where they are sorted and packed for shipment.

Unusual results are obtained by the laundry in the production of the flat work. The care in dampening and pressing, and the ironing with the large irons gives a beautiful luster, making the table linen, especially, look like new.

There seems to be no sense of stress or press. The work goes on and on in a cheery, sunny, bright, capable manner, and one may well comment on the freshness of the air in all parts of the building. It is probable that no laundry of its size anywhere approaches it in doing so much of its work by hand,—machinery being used only when necessary. The Misses White began with the ideal of hand work and have adhered to that principle unswervingly. This undoubtedly accounts for their success, as shown by the fact that the first week the laundry was in existence it had seven workers and received forty-two bundles; while at this writing, in April, 1909, there are 125 workers (the present usual force) and 1800 bundles, meaning in this case that over 30,000 pieces are taken care of within the week.

The proprietors are both graduates of Smith College and it is easy to see how much such women,—workers with brains and culture, which means appreciation of high standards and ideals,—are needed in this field alone.

No wonder the customers of the Sunshine Laundry are found in all the New England states, the Middle West, and far South, as well as in its own neighborhood. The prices charged for laundering compare most favorably with those on any lists from laundries the country over which claim to do work of like excellence. The proprietors, with unlimited courtesy, are glad to show their plant to anyone, and their superintendents execute their desires in this regard in a most happy manner.

MISS MARIA PARLOA.

Miss Maria Parloa, widely known as a teacher and writer on the art of cookery, Home Economics, Domestic Science and kindred subjects, died August 21, 1909 at her home in Bethel, Conn., where she had lived for about five years, following a long residence in New York City. Funeral services were held at her home at Bethel, Conn., August 24, and at the Chapel at Forest Hills Cemetery, Boston, August 25. Reverend Thomas C. Campbell, rector of St. John's Church, Jamaica Plain, officiated at the latter service, and many of the old friends who had known Miss Parloa intimately during her long residence in Boston were present. The body was cremated and the ashes deposited in a lot at Forest Hills.

Miss Parloa had been in poor health for some months and on the Wednesday before her death underwent an operation from which she failed to rally. Until quite recently she had expected to be able to go with a party of friends to Europe, for a year or two of travel.

With the exception of the books on cookery Miss Parloa bequeathed her library to the borough of Bethel, Conn., with funds in trust, the income to be used for library maintenance. The borough of Bethel was also bequeathed a sum for the establishment of an athletic field for the use of the young people of the place, while a generous bequest was also made to the Maine Central Institute of Pittsfield, Me. Her books on cookery Miss Parloa bequeathed to the Boston Public Library.

Miss Parloa, who was of English descent, was born in September, 1843, in Massachusetts. Her parents died in her youth, and in her early girlhood she went to Maine and entered the Central Institute at Pittsfield, from which she was graduated with credit. After her graduation she went to Florida and taught school in Mandarin several seasons. There she was also interested in Sunday school work and, to help the Sunday school to secure a much-needed organ, she gave at New London, Connecticut, the next summer she came North, her first lecture on the art of cookery. This proved so successful in showing results to be achieved in any home by knowledge rightly applied that she continued her study of the subject and made it her life work.

She had always been interested in household matters and had improved every opportunity to perfect herself in such things, and from statements made in her published works it is evident that she early acquired a thorough knowledge of methods of cookery and of other household matters. Her first professional work as a lecturer began in Boston in the summer of 1877, when her practical demonstrations attracted widespread attention and created genuine interest to an extent which caused Miss Parloa to open in the autumn a school of cookery in Tremont Street, at the corner of Mason Street, where private classes learned under her instruction by careful observation and actual practice how to cook in healthful, economical and yet tempting ways.

Miss Parloa was for several years a special instructor at Lasell Seminary at Auburndale, gave courses in sick-room cookery to Harvard medical students, lectured before classes at the Boston Cooking School and gave many courses in various places in New England as well as at the Chautauqua Assembly. She went abroad in the late seventies and made researches as to English and French methods of cooking. After her return and following lecture tours in Western cities, she removed, in 1882, to New York City, where, in East Seventeenth Street, near Stuyvesant Square, she opened a model school of cooking, conducted upon the same plan as her Boston school. This school she conducted for several years, relinquishing it upon going abroad for a long stay.

After her return from this visit to Europe Miss Parloa devoted her time, as she had in part previously, to writing. She contributed to various leading magazines, to the nutrition bulletins of the U. S. Department of Agriculture, and wrote a number of books, including *Camp Cookery*, *First Principles of Household Management and Cookery*, *New Cook Book and Marketing Guide*, *The Kitchen Companion*, *The Young Housekeeper*, *Household Economics*, etc. Her first book, *The Appledore Cook Book*, was published in 1872.

All of her books have had a widespread circulation, and are notable not only for the information they provide and the good judgment shown in the collection and arrangement of material but also for the clear, simple, and direct style which characterizes all her writings and never leaves the reader in doubt. For many years Miss Parloa has been connected with *The Ladies'*

Home Journal as one of its editors, conducting a department devoted to the subject which she had made her life study.

Miss Parloa was an original member of the Lake Placid Conference of Home Economics, organized in September, 1899, and a valued contributor to its programs and committee work. She was also an original member of the American Association of Home Economics and was present at the organization meeting in Washington, D. C., January, 1909.

Miss Parloa was one of the first in the United States to see clearly that household duties were something more than tasks, that they had an important relation to life in general, and could be approached by the same methods as other subjects worthy of study. Writing in 1877, she says "The preparation of food should be made more a matter of conscience with the housekeeper and cook than it is at present. In planning the preparation of a dish, the question should not be, Is it convenient, and will it please? but Will it be healthful, mentally, morally, and physically? for the food we eat affects all three natures.

"Then food, to do its highest and best work, must be of the best quality, prepared carefully (but always to retain its simplest form), partaken of regularly in a cheerful room and in cheerful company."

That conditions have greatly changed since this was written and that housekeepers are now very generally studying their problems seriously is in no small degree due to Miss Parloa and her work.

The Home Economics movement has grown to great proportions since Miss Parloa first began her lectures and to its development she has been a very important contributor. She was a cheerful observer, a woman of unusual experience in her work, a helpful teacher, and had the faculty in an unusual degree of inspiring in others a love for her chosen subject.

A writer in *The Boston Transcript* of August 25, 1909, says: "It would have touched deeply Miss Parloa's friends in Boston if they could have seen yesterday afternoon the tribute of love paid to her at her home in Bethel, Conn. Although she had been a resident there for less than seven years, in that brief period she had won a firm and lasting hold on the affections of the whole community, and the expression of grief was as sincere as it was general. It was not confined to the older people;

the young folks knew they had lost a rare friend and were eager to show in some way their sense of that loss. Each person present appeared to regard Miss Parloa as a little nearer, a little dearer, than she had been to anyone else. From all sides there came words of appreciation and praise for what she had done to improve Bethel, for it is chiefly through her efforts to arouse a feeling of civic pride that the old town has taken on a new and vastly better appearance, so that even the school children regard her as their benefactor. What is still to be done for them in her name they do not yet know; but she has remembered them in a characteristic manner.

"It was a simple service that was conducted at her pleasant home. It drew together so many mourners that the house and spacious porches were filled. Masses of flowers hid the coffin, but there was no floral tribute more beautiful than that of the club to which she belonged, each member of which brought a single rose to lay reverently near the friend whose death had robbed them of one of their greatest sources of inspiration, enthusiasm and strength."

Tributes to the Life and Work of Miss Parloa.

With a view to indicate more fully the importance and value of Miss Parloa's work as a pioneer in the field of Home Economics, it has been deemed of interest to supplement the foregoing brief account by the following letters of appreciation from some of her late associates:

To the general public Miss Parloa was the one who knew not only how to prepare toothsome viands but who was able to give clearly stated directions to others. As a lecturer and author she was widely recognized.

It is only the members of that inner circle of the workers for better sanitary living in all directions who have felt the inspiration of her broader sympathies and her clear insight into the needs of the community.

Although not a scientifically trained woman herself (there were no opportunities for that in the fifties and sixties) no one saw more need in that direction and no one had more faith in what science might do for the housewife and for the community.

It was for Miss Parloa's class and at her request that I and my associates of the Woman's Laboratory worked up the chemistry of cooking and cleaning first as lessons in her class room with kitchen utensils.

It was her suggestion which led to our work for its introduction into the public school. She probably was an inspiration to others for it was a cardinal principal of belief with her that the public school was the place to spread good ideas.

Miss Parloa was a student all her life and never let slip an opportunity of learning the newest and best. At the first summer School of Food and Nutrition at Middletown, Conn., the younger teachers were often put to shame by her eagerness.

Miss Parloa was a charter member of the Lake Placid Conference and her counsels did much to shape the work of that company and when a larger group met at Washington in December, 1908, to form the American Home Economics Association it was most gratifying to have Miss Parloa with us as a charter member. In the picture taken at the McKinley School on that day (see No. 1 of the JOURNAL, frontispiece) she will be found as the center of the group. Her work was to the last an inspiration to others. The Association is proud to have had her approval.

ELLEN H. RICHARDS

My acquaintance with Miss Parloa was less intimate than with some of the other pioneers in home economics, but because of that my impressions of her may be even more distinct.

Before ever I saw her she sent a long and cordial letter to the girl, uncertain as to choice of a life work, who appealed to her wider experience. One thing she said the first time I saw her (while a student at the Boston Cooking School and she happened to call there) has influenced me many times,—that there was nothing with which a teacher of Domestic Science was not expected to be familiar since all arts and sciences touched the problems of food and shelter. Again, she said something which often occurs to me,—that many persons are so careless of detail, even in the scraping of dishes that they get but half an egg where a whole one is called for, not only losing material but changing proportions of recipes.

She never ceased to study all phases of her chosen work, and certainly she was a vivid illustration of Ruskin's definition of a

good cook. "To be a good cook" he says, "means the knowledge of all fruits, herbs, balms, and spices, and of all that is healing and sweet in fields and groves, savory in meats; it means carefulness, inventiveness, watchfulness, willingness, and readiness of appliance; it means the economy of great grandmothers, and the science of modern chemists; it means much tasting and no wasting; it means English thoroughness, French art, and Arabian hospitality."

Miss Parloa was all this and more,—she was a teacher of unusual success, a writer with a large public, and an investigator at a time when most persons were content to know how to do things, and were not concerned with the why of household problems. Best of all, she was a valued friend to all who came to know her well.

The record of her life should inspire all the young students of the household arts with the need of "carefulness, inventiveness, watchfulness, willingness" as well as "the science of modern chemists."

ANNA BARROWS.

The passing of Miss Maria Parloa marks an epoch in one of the most important activities which count for better living and higher standards in man's development.

Just thirty years ago she was a pioneer teacher in the first incorporated cooking school in the United States, organized in Boston (1879) under the auspices of the Women's Educational Association, the same liberal minded workers who made possible the Harvard examinations for women. Large hearted, broad minded, full of warm sympathy for all that is best worth living for, her influence can hardly be overestimated.

As a member of the first Lake Placid Conference on Home Economics and an almost constant attendant, her sound judgment and broad grasp of problems there discussed carried great weight. Her personality was very winning and her influence stood for all that was best in our American home life. Recognizing as she did years ago that the nation which will lead the world will be a nation of homes, her work stands as representative of the truest form of patriotism, that which builds for character and counts for love of country and of home. It is such work as hers which helps to make permanent and prosperous homes, the strength of any country.

ANNIE DEWEY.

My acquaintance with Miss Parloa began with the summer school for Home Economics held at Middletown, Conn., in 1902. Her enthusiasm, genial spirit and devotion to the work attracted me greatly.

The reply she made to Professor Atwater at one of the lectures when he asked her to explain a certain point:—"I do not think I can make it clear, Professor Atwater because I do not understand it very well myself,"—seems to me to indicate one great secret of her success. In her books and lectures she did not attempt to tell what she did not know from actual experience. One of the pleasantest memories I have of her is of the night I spent at her Bethel home.

She was so enthusiastic over her garden and her home. She said she felt she must work with the vegetables before she wrote the Government Farmers' Bulletin on the cooking of vegetables. There were so many little points about which she wished to satisfy herself. She was so modest about her own attainments that we found it difficult to secure the data we wished for publication.

We shall greatly miss from the workers one who brought to us so much of good cheer, inspiration and accurate knowledge.

ISABEL BEVIER.

For a number of years it has been my good fortune to know Miss Parloa and count her a friend. She wrote two Farmers' Bulletins for the Office of Experiment Stations,—Canned Fruits, Preserves and Jellies; Household Methods of Preparation, and Preparation of Vegetables for the Table, which have had a very large circulation, and are still in great demand. Very frequently in connection with the Office of Experiment Stations' nutrition work questions arose in which Miss Parloa's advice was needed, and from the fund of her knowledge and experience she freely gave. This cooperation with the Office of Experiment Stations gave us an unusual opportunity to become familiar with Miss Parloa's accurate knowledge, careful attention to details of work, and her scientific attitude of mind. She was never satisfied to make a statement unless it could be substantiated by her own knowledge, or the results of some one's experiment or research. Her observations on the effects of methods of cookery upon the wholesomeness of food

were extended, and in this and in other ways she contributed much which is of value to the science of food and nutrition.

C. F. LANGWORTHY.

Maria Parloa, who died a few weeks ago, was in many ways a most remarkable woman. She has left to the world a rich legacy in her works on household economics. She was a pioneer in the work and her books are the foundation upon which most of the good books on cookery that we have today are based. She was second to none in her line of work and her interest never flagged. She kept abreast of the times in everything pertaining to her subject. Her thorough understanding of the art of seasoning made her cooking stand at the head in this country. She was generous to a fault, always ready to help the struggling friend to a better position, and we shall never know how much she has done for those who needed the help she could give. Those of us who knew and loved her will sadly miss her sweet spirit from our midst.

MARIA DANIELL.

EDITORIALS.

Meeting of National Educa- tion Association.

The meeting of the National Education Association held in Denver, Col., July 5-9, a brief summary of which appears on page 390, was one of deep interest to all concerned with the newer phases of education.

Compared with any former program this one shows an extraordinary number of papers that deal with the application of education to actual living conditions. We find here an ample response to the popular appeal so long disregarded that the schools shall train boys and girls primarily for good citizenship, to be healthy, moral and useful members of society.

"How May the Schools be More Closely Related to the Life and Needs of the People" was the subject of one paper, but variously worded this was the subject of many others.

The meeting of this association at Denver showed how welcome to those engaged in pioneer work is an opportunity of comparing experiences and of learning the trend of thought in each other's localities.

The formation of local clubs is urged on the workers as an excellent means of gaining courage as well as of disseminating information.

Suggestions as to the Journal.

Much space is given in the present number of the JOURNAL, to reports of the Denver meeting of the Home Economics Association and still other papers and reports will appear in subsequent numbers. The membership of the Association as printed in the first or February number of the JOURNAL was 746. It is now about 850.

It is time to scrutinize this list in order to determine to what classes of people the Association appeals and to discover whether the JOURNAL is meeting their needs.

First. By far the larger proportion, at least four fifths, of the membership, is composed of those who are directly interested in the teaching of Home Economics and Manual Training. They were largely instrumental in forming the Association and to them the JOURNAL furnishes in each issue valuable articles bearing on their work. A strong point has been the study of nutri-

tion, a subject that appeals strongly to the teacher. The two departments, News from Institutions and News from the Field, bring information from others engaged in the work.

Second. Of next importance on our list of subscribers are those whose interests center in what is now denominated Social Service. Such persons seek information on whatever conduces to the well-being of the inmates of institutions, and on "extension work," which aims to instruct young and old in the ways of right living, whether in settlements or farmers' institutes or through city lecture courses or by means of the printed page. Matrons of institutions, dietitians, settlement workers, students of vital statistics, hygienists, librarians have already found in our pages valuable information, and will continue to do so. In the current number may be noted Dr. Sill's study on malnutrition in school children, while in former numbers will be found articles on institution dietaries and management, on clean food and on other allied subjects.

Third. The housekeeper and club woman makes up the third class of those belonging to the Association. Most of these would also be classed among those who watch with keen interest the outside conditions that affect other homes than their own and they would find much in the articles that are especially directed to the worker in Social Service. But the JOURNAL aims also to meet more directly her need of help as a worker and an administrator within her own four walls. The relation of work as done in the house to the development of outside industries is a pressing subject for discussion, the saving of labor, the ethical questions that underlie the expenditure of the family income, the relation of home to school, art in its relation to dress and house decoration, are all questions of vital interest, which will receive full attention in the pages of the JOURNAL.

We hope to increase the number of intelligent housewives on our list of subscribers. Such an increase in our membership would call for a larger proportion of articles that appeal especially to them.

The editors cordially invite subscribers and readers to send articles that are in line with the purpose of the JOURNAL, also items of interest regarding institutions and courses of study.

They also welcome criticisms and suggestions. Only by such co-operation can the JOURNAL be made a success, for as yet articles cannot be paid for.

Keep your files of the JOURNAL. It aims to bring into its pages a report of what is vital in the great movement that is to put at the service of the home the results of modern progress and enquiry. History is made along these lines and its original records will be valuable for reference. Keep your files.

The JOURNAL is the property of the Association, its organ for information and exchange of opinion; it has no advertising agent busy with ingenious schemes for bringing it to the attention of an increasing number of people. Its circulation can grow only through the efforts of members. The editors hold a limited number of copies for free distribution and they will be sent on application as samples to those who are likely to become subscribers.

AMERICAN HOME ECONOMICS ASSOCIATION SECOND ANNUAL MEETING.

Attention is again directed to the second annual meeting of the Association, to be held at Boston, Friday, December 31, 1909 and Saturday, January 1, 1910. The Hotel Westminister, Trinity Place, has been selected as the headquarters for December 31, and it is expected that either a luncheon or dinner will be held there upon that date.

The meetings have been arranged to take place at the time of the winter meeting of the American Association for the Advancement of Science, which annually draws together a large assemblage of the scientific workers of this country. Associate membership in this association, costing \$3.00, enables the holder to secure the special railway rates provided, and participation in the many events planned for the meetings. No separate railway rates can be secured for the Home Economics Association.

The sessions of the Home Economics Association will include a business session, at which will occur the annual election of officers and the discussion of future policies. Letters in regard to these may be sent to the Secretary by those who cannot be present. The fullest expression of opinion is desired. At other sessions papers will be presented and there will be short addresses by some of the prominent men and women who will be in attendance at Boston during the week, as well as a social session for better acquaintance. As at the annual meeting last winter arrangements are being made for round table conferences.

A New England Branch of the Association was organized at a meeting held at Simmons College, October 9. The officers chosen, viz.: Miss S. L. Arnold of Simmons College, chairman, Herbert S. Weaver, vice-chairman, and Miss Isabel F. Hyams, secretary-treasurer, with Prof. W. D. Hurd, Miss Alice Wilcox, Miss Bertha M. Terrill, and Robert L. O'Brien, additional members of the executive committee, will constitute a committee of arrangements for the Association meeting.

The December issue of the JOURNAL will contain additional details of the meeting. Requests for information may also be sent to Miss H. I. Goodrich, 264 Boylston St.; Miss Hester Ridlon, Simmons College; or the President of the Association, Mrs. E. H. Richards, Massachusetts Institute of Technology.

NEWS FROM THE FIELD.

Denver Meeting of National Education Association.

The forty-seventh convention was held July 3 to 9. The attention accorded to industrial education was remarkable. As noted editorially in *Experiment Station Record*: "Nearly one-half of all the papers, addresses, and reports presented at the convention dealt in some direct way with one or more phases of industrial education. So decidedly did this subject dominate all others in the papers and discussions of the general sessions and the different department meetings that it shows clearly the almost universal demand for the reorganization of public school curricula along lines giving greater emphasis to local industrial and domestic affairs—agriculture, manual arts, and Home Economics. It might also be said that the desirability of introducing such work as rapidly as possible into the regular work of the public schools was taken for granted, and that the problems troubling those who attended the Denver convention related to methods, administration and the training of teachers."

A large share of this interest in industrial training was accorded to those phases dealing more closely with Home Economics. The importance of Domestic Science teaching found decided recognition in the presidential address by L. D. Harvey, and in the address before the general convention by President J. W. Robertson of Macdonald College, entitled Education for the Improvement of Rural Conditions.

Mrs. E. H. Richards read a paper before the department of elementary education on The Application of the Household Arts and Sciences to the Work of the Elementary School, and in the department of Manual Training discussed the influence of Domestic Science on rural and city home life. At the latter meeting the influence of Domestic Arts on rural and city home life was discussed by Miss Helen Schurz of Kansas.

A movement which has been under way for a number of years for the reorganization of the departments of the National Education Association culminated at Denver in the adoption of the report of a special committee on reorganization, which reduced the number of departments from twenty-one to ten. In doing this three departments (physical education, Indian education, and the library) were eliminated entirely. The national council and the departments of higher education, music education, and special education remain as before, while the department of women's organizations becomes the department of school patrons.

The remaining thirteen departments will be combined as follows: The department of superintendence and that of school administration into a new department of superintendence; the department of child study and that of normal schools into a department of professional preparation of teachers; the departments of elementary education and kindergarten education into a department of elementary education; the departments of secondary education, business education, and science instruction into a department of secondary education; and the departments of manual train-

ing, rural and agricultural education, and technical instruction into a department of industrial education. This last department is also to include Domestic Science instruction.

The leading officers of the general association elected for the ensuing year were: President, J. Y. Joyner of North Carolina; treasurer, Arthur Chamberlain of California; member of board of Trustees, J. M. Greenwood of Missouri; member of executive committee, J. H. Phillips of Alabama. I. H. Shepard holds the position of secretary for life.

In connection with the Denver meeting of the National Education Association and American Home Economics Association the Western Society of Technical Chemists and Metallurgists gave a reception and banquet, at the Brown Palace Hotel, on July 2, to their wives and others, Dr. and Mrs. Robert H. Richards being the guests of honor. Mrs. Richards spoke on science as applied to housekeeping and advised the men to establish a household appliance testing station, where the mechanical problems may be worked out and then to pledge their wives to give the machines a fair trial.

The National Conference of Charities and Conventions.

The thirty-sixth conference of this association was held at Buffalo, June 9-16, and was well attended. The usual interesting and helpful program was presented.

From the standpoint of Home Economics the more immediate interest centered around the sections of Families and Neighborhoods, Health and Sanitation, and the Children's Section. In the first of these the opening paper was the Integrity of the Family, by Joseph Lee of Boston, who protested against any scheme of social betterment which would tend toward the disintegration of the family. School feeding seems radical, but in reality is not radical enough. The home must be so far rehabilitated that the child can be properly cared for within its shelter, and the community, instead of taking away the functions of the family, must rather educate the home-makers to the point of the efficient fulfillment of their function.

Miss Mary Richmond of Philadelphia enumerated five important points of contact between social work and public school education as follows: Irregular attendance of school children; premature employment; improper feeding and underfeeding; unwise start in first going to work; and construction and development of special ability, to which particular attention should be given.

Dean L. H. Bailey of Cornell University, with the topic Rural Communities, found the greatest disability of country neighborhoods to be their lack of social economic organization. Improvement was to be expected however, through an awakened consciousness of the country itself rather than through city-directed philanthropics. Ameliorating conditions should be the increase of population, the extension of the means of communication, the inevitable cooperation and organization of farmers for business purposes, and the extension of education and recreation. The church, the school, the library and the press must be made more effective. A similar point of view was taken by John C. Campbell, who described conditions

among the white people of the Southern mountains. He advocated better and more centralized and specialized schools, wherein the boys could be taught concerning the mountain resources and their exploitation, and the girls could receive instruction in cooking, nursing, and other home arts. He considered that Southern spirit and experience could be more fully used in solving the problems and suggested that the institutions founded under Northern auspices should be turned over as rapidly as possible to local auspices.

In the Section of Health and Sanitation, Roy Smith Wallace discussed The Responsibilities and Opportunities of a Health Officer. In this he considered the shortcomings of sanitary regulation as chiefly due to the lack of special training of officials for work in public hygiene, and largely remediable by more extended education, especially in the public schools. Dr. Luther H. Gulick spoke on private and municipal administration, and Dr. G. W. Goler gave a stereopticon lecture on Milk for Babies. At a subsequent session institution dietetics was discussed. Dr. C. F. Langworthy of the United States Department of Agriculture presented an account of dietary studies conducted as a part of the Nutrition Investigations of the Office of Experiment Stations in Philadelphia, Baltimore and Washington. Dr. Herbert Mason King described the progress in scientific feeding of tuberculosis patients at Loomis Sanatorium.

Among the speakers in the Children's Section was Miss Martha Berry of Georgia, who discussed Rural Education among Southern Highlanders, with special reference to the work of her school at Rome, Ga. Not only have new thrift and ambition come to characterize the boys of the school, but it has been also very effective as an object lesson to the entire community. George Schon of Kentucky instanced the extension of effort for education among the mountaineers of Kentucky and the great ambition of the younger generation to get effective schooling.

Officers were elected for the ensuing year, the most important being the following:

President, Jane Addams, Chicago; first vice-president, F. H. Nibecker, Glen Mills, Pa.; second vice-president, Ansley Wilcox, Buffalo, N. Y.; third vice-president, Judge William H. DeLacy, Washington, D. C.; general secretary, Alexander Johnson, Fort Wayne, Ind.; and treasurer, Edward Boyle, Chicago, Ill. Miss Mary E. Richmond of Philadelphia is chairman of the Committee on Families and Neighborhoods; Thomas J. Riley of that on The School and the Community; and Dr. Charles P. Emerson, Clifton Springs, N. Y. of that on Health and Sanitation.

NEWS FROM INSTITUTIONS.

University of California.

A course of 30 lectures was given at the summer school during July by Mrs. Ellen H. Richards. Lectures dealing with *The Relation between Costs and Efficiency*, alternated with those having for a general subject *Euthenics*,—*Better Living*, *the Effect of Environment*.

Under the former title were discussed the following topics: Economics of living,—ideals of spending; differences between twentieth and nineteenth centuries in conditions; standards—psychic income; cost of shelter—body needs, psychic needs; the increased cost of sanitary science; the capitalist's opportunity; estimates of three grades of income; cost of food in relation to efficiency; cost of clean food in production and transportation and storage; cost of cleanness, municipal cleanness, markets, etc.; the clean house and family habits,—costs; prevention cheaper than reformation; cost in human life of neglect and ignorance; educating the masses by example,—museums, public lectures, traveling exhibits, etc.; and State interest in the efficiency of its citizens.

The course on euthenics embodied the following lectures: Opportunities for the improvement in education, ideals, sanitation, therefore in health; individual effort—each strives for his ideal, learning the reasons and understanding the philosophy; community efforts—best ideals of individuals become ideals of community to be striven for; personal habits and ideals cultivated for future effect on family and community—clean homes; public habits, public buildings, public schools; effect of public sanitation on private habits and conditions, especially on aliens; children of today adults of tomorrow, hence value of training; teaching the children is the chief occupation of the family—reflex influence of this teaching on the family is good; effect on the community—community has duty to family, again reflex; public works—methods of government are educational; agents of education—students of social conditions and scientific research, educational institutions bringing to the mass of the people an awakening; applied science, i. e., Home Economics for girls, sanitary engineering courses; not until those agencies are complete is united effort effective—for instance, water supply, garbage, flies, mosquitoes; community enterprise means more perfect control of environment, hence its spread throughout the country—central heating as well as lighting plants, employment bureaus, laundries, kitchens; it is the duty of the higher education to lead the way,—satisfaction with life is the best defense against disease; great opportunity for the teacher of Home Economics; and the power and the responsibility of the homemaker.

The lectures were very well attended, some one hundred hearers being registered and twenty-five for university credit.

It was proved beyond all question that interest in both private and municipal housekeeping is fully awakened and at last intelligent women and thoughtful men are grasping the fact that science may be applied to the affairs of daily living and that it is in this direction that progress is

to be made in the betterment of social conditions. The marvelous regeneration of San Francisco in so many respects must make the other cities about the bay more active in the civic housekeeping lines.

The State Board of Health had most opportunely fitted up a car to illustrate sanitary defects and remedies and to educate the people by statistics, charts and models in the facts so well known to sanitary experts. An illustration of the exhibit forms the frontispiece of this issue of the JOURNAL.

This car was used as a practical demonstration during one week of the lectures and was most helpful. Other states would do well to imitate this example. Mrs. Richards also suggested in one of her lectures that city boards of health might use some window space along a crowded street for varied exhibits, photographs, etc. of conditions demanding remedy.

The work thus auspiciously opened, is to be systematically continued. Acting upon the suggestion of the Association of Collegiate Alumnae, the authorities of the university are planning the co-ordination of a number of courses now in the curriculum for the organization of a department of Domestic Science.

Three instructors are interested in the courses, viz. Professor Meyer E. Jaffa, head of the State Pure Food Laboratory, Miss Jessica Peixotto, assistant professor of sociology, and C. G. Hyde, associate professor of sanitary engineering. A formal announcement of the new department was made with the opening of the university. It is not planned to add any courses to those of last term, but to correlate and expand those already established in such a way to make possible a comprehensive investigation of the conduct of the home.

Professor Peixotto's participation in the department will include the courses which she has previously given in the department of economic. Poverty will be studied, not only in the phases of its relief, but also of its prevention. The problems involved in the care of children by the State, when such care is necessary, will be approached, with deductive conclusions for parental care.

The Household as an Economic Agent is the title of another course, which will have to do with the relation of the home and its management to economic life.

Water supply, sewage disposal and the like in their sanitary aspects will be taught the students in courses by Professor Hyde. Three courses will be offered in sewage disposal; in one, students will receive training in watchfulness over plumbing. Another course will treat of the quality of water from the esthetic, commercial and sanitary points of view, how to get pure water and how to keep it pure, and the necessity for both.

Of special importance will be Professor Hyde's course in "applied sanitary science." In this he will consider the interpretation of vital statistics, the significance of dust, dirt and filth, the problem of ventilation and warming, of baths and laundries, of house and street cleaning, of water, milk and other food supplies, of garbage and refuse collection and allied topics.

Co-ordinate with these will be courses in the source and preparation of foods, given by Professor Jaffa in the department of nutrition. One of his

courses will have to do especially with the composition and purposes and preparation of human food, and with food adulteration and food preservatives. Laboratory courses in food analysis will be given at the agricultural building.

The university has also announced that for the first time credit will be given on entrance requirements of from $1\frac{1}{2}$ to 6 units for Domestic Science. Six units are now allowed for elementary French, German or Spanish. The credit for Domestic Science must be accompanied by credit for chemistry, except that decorating and furnishing will be accepted for a maximum of $1\frac{1}{2}$ units provided the candidate has credit also for free hand drawing.

The State College of Washington.

The new Domestic Economy building which has been completed and is now occupied by the department is a commodious three-story brick building. On the first floor are fuel rooms, the cloak rooms, the laundries, a cooking laboratory, and a large lecture room. On the second floor are the office; the reception room, which will also be used as an exhibit room, where part of the student work will be kept; the dining room; a small and large cooking laboratory; a large lecture room; and two class rooms. On the third floor are the sewing rooms, the rest room for the students of the department, the model bed-room, and the bath. The building is well lighted, and is an ideal place for the work for which it was designed. It is believed to be the only college building west of the Rocky Mountains devoted wholly to the work of Domestic Economy.

The course in Domestic Science offered is as follows:

Kitchen Management.—The care of utensils, glass, china, and silver; care of the fire; cooking of cereals, vegetables, milk, eggs, cheese, soups, breads, beverages, etc. Six hours of laboratory work per week.

General Cookery.—Cooking of meats, salads, desserts, cakes, frozen mixtures, and fruits. Care of dining room and table service. Six hours of laboratory work per week.

Advanced Cookery.—The preservation of fruits and vegetables, food rations, dietaries, invalid cookery, and bills of fare. Six hours of laboratory work per week.

Food Economy.—Lectures on foods; marketing; the study of dietaries.

Laundry Work.—Lectures and practical work in washing, starching, ironing, and polishing; caring for fine lace; cleaning and pressing of cloth; removal of ink and other stains. Two hours of laboratory work per week.

Home Nursing.—One lecture per week on care of the sick; first aid, simple household tests and remedies for disease; care of infants.

Domestic Science Teaching in Georgia.

The *Southern Educational Review*, for December-January, 1908-09, contains an article by Elizabeth G. Holt, describing a phase of domestic science which is being tested in Augusta, Ga. The school is located in a cottage, typical of the home of the average mill laborer, and is situated directly in front of the large public school from which its pupils come for

their work. "The general plan of the work is for the grades to come in small sections numbering from 6 to 10 to this 'School Home' during the morning hours, for instruction in cookery, housecleaning and all matters of value in good home-making, sewing, handicrafts, and gardening. In the afternoons, following a regular schedule, groups of four or five children 'keep house' in the School Home. Each group comes every two weeks. The house belongs to them for the time being, and theirs is the responsibility to have it clean and in order to cook a luncheon for invited guests, to sew, to garden, in fact, to occupy themselves as good housekeepers. Through this practice they gain a degree of independence and grow in habits of order and cleanliness." The teacher is near enough to be called on for advice if necessary, but she does not interfere with the freedom of the children, her commendation or criticism coming afterwards. The children are now raising a fund with which to build a model cottage by selling various things that they cook and handicraft articles. The cottage and its equipment are to be planned by the children.

The Relation of the Teacher of Domestic Science to the Community The *Journal of Education* [Boston], of June 3, 1909, contains an article on The Relation of the Teacher of Domestic Science to the Community, by Miss Anna Barrows, of Teachers' College, Columbia University, from which we quote as follows: "The general educational value of Domestic Science is well established with those who have investigated it, and its practical bearing on personal hygiene, temperance, and thrift are unquestioned."

"Other things being equal, the best special teacher will be the one who has had some experience in general teaching and thus knows the capacity of average children and the limitations of the schoolroom."

"The Domestic Science teacher who has been a general teacher and is a practical housekeeper may accomplish much in any public school in correlating the work of other teachers with her own and helping them to make their instruction more helpful to the homes."

"The teacher who boards is likely to adapt her program to the schoolroom rather than to markets or social conditions."

"The school of Domestic Science or the public school kitchen should be as much an experiment station for the housekeepers of the community as is consistent with its regular routine. Through the indirect influence of the teacher, who is looking for opportunities, much has been accomplished already, and more may be in purifying markets and foods, and improving the sanitary condition of public buildings." "There is no way in which a teacher today may better serve the individual, the family, and the community than by inculcating thrift and the dignity of hand labor, and this is what Domestic Science stands for."

BOOKS AND LITERATURE.

What Ought To Be Done To Make the Schools Useful to Our Daughters. Katharine Eggleston. *Woman's Home Companion*, 36, No. 9, (Sept., 1909), p. 20.

"The present courses offered in Domestic Science are under estimated and limited by the attitude of the public and of the pupils themselves. The consistent adaptation of every phase of education to the needs of girls will have a tendency to make the girls see the real dignity and value of whatever makes them efficient in woman's sphere. Time and patience will bring to us a laboratory equipment which will serve for the actual working of Domestic Science. There are promising beginnings already made; and they will grow very fast if we wake up to see that a definitely womanly training is the great need of our time."

Domestic Science in the Schools and Colleges. Helen Sayr Gray. No. Am. Rev. 190, (Aug., 1909), pp. 200-11.

This is a popular article in which the apathetic attitude of many educators and the general public toward the introduction of Domestic Science courses into the colleges and schools is deplored and a vigorous plea made for greater attention to the need for such courses.

Health Studies. Applied Physiology and Hygiene. By Ernest B. Hoag, Lecturer in Hygiene at the University of California and elsewhere, with a prefatory note by David Starr Jordan, President Leland Stanford, Jr., University. Boston, D. C. Heath, 1909.

"To help the young people in our schools who will be men and women before long is the purpose of this book." Men and women who "ought to know better than to do unwholesome things must be taught to do better." The style is clear and concise, suggestive rather than explanatory and for the most part up-to-date. A few old statements have crept in like "sewer gas is poisonous"; "carbon dioxide the poisonous gas exhaled from the lungs." An appendix with review questions and reading references adds to the value.

A Field Kitchen of the German Army. Faller (*Umschau*, 13, No. 26, pp. 552, 553, fig. 1).

A portable range is described.

England's Field Kitchen. Illust. *London News*, Am. Ed. 43 (1908), No. 1121, p. 643.

Similar to the above.

Patent Foods and Patent Medicines, R. Hutchison. (Two lectures London, 1906, pp. 47.

This publication, contains data regarding the composition of a number of infant foods, invalid foods, and patent medicines. So often the question arises, where can data be found on patent foods that mention is made of the publication though it has been in print for some time.

The Fuels of the Household. By Marian White, Boston. Whitcomb & Barrows. Cloth, pp. 97.

Since information on this subject has not always been readily available for housekeepers, it has not had the attention that it deserves. Now that we are beginning to consider the conservation of our national resources, such a book is especially timely. Miss White discusses the origin, composition and uses of the various fuels, thereby affording a history of the development in cooking and lighting, with special reference to the economics of the household. It has been designed especially for young housekeepers and those who are to become such.

Practical Testing of Gas and Gas Meters. By C. H. Stone, B.S., M.S., Chief Inspector of Gas, Public Service Commission, Second District, New York. New York, John Wiley & Sons; London, Chapman & Hall, Ltd., 1909; 8vo., pp. x+337, figs. 51. Cloth.

The work consists of four parts dealing respectively with photometry, chemical tests, calorimetry, specific gravity and pressure, and testing of meters. It is stated that so far as the writer knows, no book, written by an American and dealing purely with American methods of gas manufacture and testing, and thoroughly up-to-date, is available today, and the volume has been prepared to meet these requirements.

"The writer's chief aim has been to explain clearly, simply and fully such tests as would be of practical service to the gas manager, chemist or photometrist, and to make such comments and suggestions as might guide him in his choice of apparatus or process and assist him to secure accurate and useful results therewith."

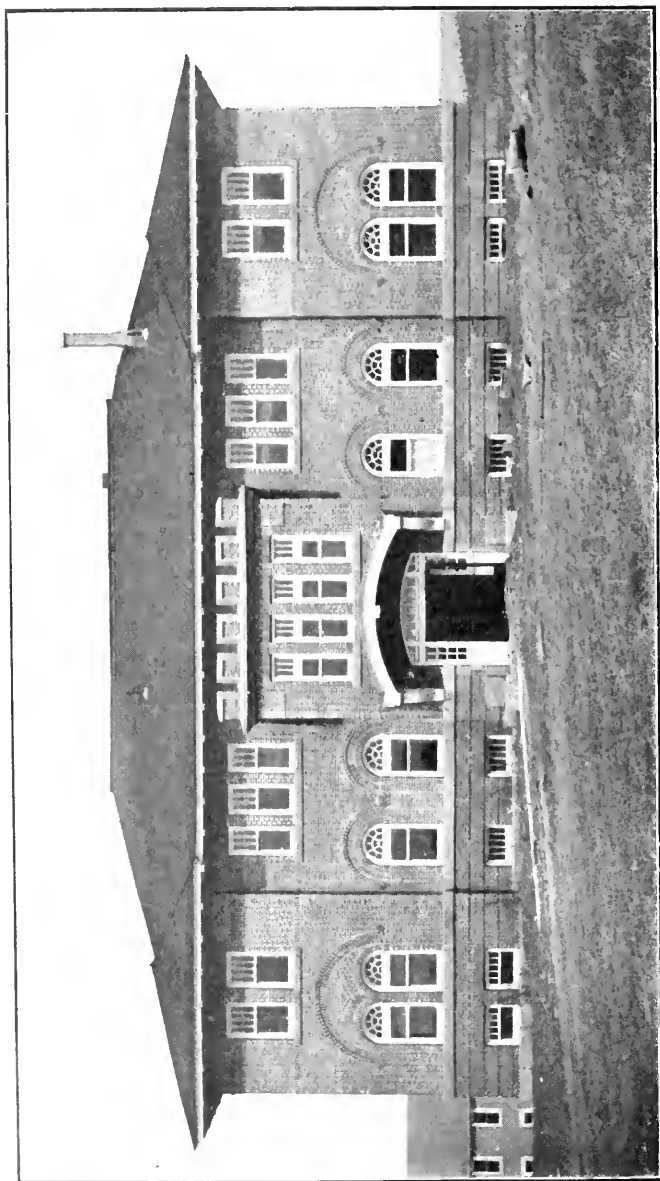
A Crystalline Bleaching Powder. K. J. P. Orton and W. J. Jones. Jour. Chem. Soc. [London] 95 (1909), I, pp. 751-757.

A study of the chemical nature of bleaching powder.

The Textile Fibers.—Their Physical, Microscopical and Chemical Properties. By J. Merritt Matthews, Ph.D., formerly head of Chemical and Dyeing Department, Philadelphia Textile School. New York, John Wiley & Sons; London, Chapman & Hall, Ltd.; 2d ed. rev. and enl. 8vo., pp. viii + 480. Figs. 127. Cloth.

This second edition of what may be considered the standard work on textile fibers in the English language, has been carefully revised, though the arrangement and general plan of the first edition have been retained. Much valuable matter has been added. The scope of the volume may be judged from the following table of contents:

Contents: Classification of the Textile Fibres; Wool and Hair Fibres; The Chemical Nature and Properties of Wool and Hair Fibres; Shoddy and Wool Substitutes; Minor Hair Fibres; Silk: Its Origin and Cultivation; Chemical Nature and Properties of Silk; The Vegetable Fibres; Cotton; The Physical Structure and Properties of Cotton; Chemical Properties of Cotton; Cellulose; Mercerized Cotton; Seed-hairs other than Cotton; Artificial Silks, Lustra-cellulose; Linen; Jute, Ramie, Hemp, and Minor Vegetable Fibres; Qualitative Analysis of the Textile Fibres; Quantitative Analysis of the Textile Fibres; Appendix I, Microscopic Analysis of Fabrics; Appendix II, Machine for Determining Strength of Fibres; Appendix III, Commercial Varieties of American Cotton; Appendix IV. Bibliography of the Textile Fibres.



VAN DOREN HALL. DOMESTIC ECONOMY BUILDING, WASHINGTON STATE COLLEGE
(See October JOURNAL, p. 395).

THE Journal of Home Economics

VOL. I.

DECEMBER, 1909

No. 5

A STUDY OF HOUSEHOLD EXPENDITURES.^a

BERTHA M. TERRILL.

Many problems confront the housekeeper of today which have risen from inventions unknown a generation ago. This is especially true of food supplies and methods of food preparation.

The following study is an attempt to throw some light upon: (1) The comparative cost of coal, gas and oil as fuels in food preparation; and (2) some factors regarding the purchase of foods.

The study has been necessarily limited and its chief value will lie in suggesting directions in which discriminating selections should be made, based upon more substantial grounds than fancy, the words of the dealer or the oft-times erroneous superficial judgments of value. It has not been possible to include a discussion of many points closely related to those considered in the studies made, such as the time and labor involved; the possible use of a coal range for other than cooking purposes, as heating hot water and warming the kitchen or other rooms; and the possible avoidance of the dirt and discomfort of a coal range, all of which questions and others should be weighed in connection with those discussed in the studies given.

(1) *Cost of fuels.*

In testing the cost of the application of heat to foods a study was made of: (a) Coal and gas ranges, an Aladdin oven and a fireless cooker; (b) the relative cost of cheap cuts of meat and higher priced cuts when gas is used in their preparation; and (c) the difference in cost of gas when used carelessly and when carefully regulated.

Tests with coal and gas ranges and an Aladdin oven.—What might be regarded as typical processes were selected, the tempera-

^aThis is a condensation of a dissertation submitted to the Faculty of the Graduate School of Arts and Literature in candidacy for the degree of Master of Arts. Department of Household Administration, University of Chicago, 1908.

ture and length of time of cooking in each case being such as are considered most desirable. These were kept uniform as far as possible.

The tabulated results with the coal stove were as follows:

RESULTS WITH A COAL STOVE.

Kind of Food.	Amount.	Temp.	Time.	Fuel Used.	Cost.
		Deg. C.	Hours.		Cts.
Beef, roast	2 lbs., 7 oz.	195	1.25	Coke, 3 lbs., 6 oz.; coal, 11 lbs., 10 oz.	5.60
Beef, corned	3 lbs., 8 oz.	—	5	Coke, 5 lbs.; coal, 17 lbs., 4 oz.	9.13
Stew	2 lbs., beef, round Vegetables	—	4	Coke, 4 lbs., 13 oz.; coal, 6 lbs., 5 oz.	4.06
Bread	3 loaves	165	1	Coke, 3 lbs., 6 oz.; coal, 20 lbs., 11 oz.	4.23
Beans, baked(1)	3 ½ qts. (dry)	175	8.5	Coke, 6 lbs., 1 oz.; coal, 20 lbs., 11 oz.	10.0
Beans, baked(2)	1 cup (dry)	165	8.5	Coke, 3 lbs., 6 oz.; coal, 8 lbs., 12 oz.	4.44
Cake	1 loaf	100	16	Coke, 3 lbs.; coal, 5 lbs.	2.94

The following results were secured with the gas range:

RESULTS WITH A GAS RANGE.

Kind of Food.	Amount.	Temp.	Time.	Amount of Gas Used.	Cost.
		Deg. C.	Hours.	Cu Ft.	Cts.
Beef, roast	2 lbs., 6 oz.	195	1.25	33	2.8
Beef, corned	3 lbs., 4 oz.		5	45.42	3.86
Stew	2 lbs., beef, round Vegetables		4	25.26	2.14
Bread	3 loaves	180	1	20.5	1.74
Beans (1)	3 ½ qts. (dry)	165	8.5	191.25	17.25
Beans (2)	1 cup (dry)	115	16	123.87	10.52
Cake	1 loaf	195	1	25	2.12
Soup	2 qts. water, 3 lbs 1 oz. bone		6	12.41	1.05
Beef, roast	4 lbs.		5	45.42	3.86
Lima beans	2 cups, dry		1	3.15	0.25

The results given on the opposite page were obtained with the Aladdin oven:

RESULTS WITH THE ALADDIN OVEN.

Kind of Food.	Amount.	Temp.	Time.	Amount of Kerosene Used.	Cost.
		<i>Deg. C.</i>	<i>Hours.</i>		<i>Cts.</i>
Beef, roast	2 lbs., 1 oz.	100	4 5	10 oz.	1.15
Beef, corned	4 lbs., 8 oz.	135	5	2 lbs., 5 oz.	4.26
Stew	2 lbs. beef, round, Vegetables	145	4	1 lb., 5 oz.	2.42
Bread	3 loaves	155	1.75	10 oz.	1.15
Beans, baked (1)	3 1/2 qts. (dry)	135	8.5	2 lbs., 7 oz.	4.5
Beans, baked (2)	1 cup. dry	100	16	1 lb., 7 oz.	2.05
Soup	2 qts. water, 3 lbs 4 oz. bone	100	6	14 oz.	1.66

In these experiments the fires were lighted and used exclusively for preparing the one dish at a time. The amount of fuel consumed was carefully measured, the coal by weight, the gas by meter and the oil as a fraction of a gallon (1 quart oil = 26 ounces). The cost of fuel is based on local Chicago prices, viz. coal \$7.75 per ton (2,000 lbs.); coke \$6.75 per ton (2,000 lbs.); gas \$0.85 per 1,000 cu. ft.; and kerosene \$0.12 per gallon^a.

It is not surprising to find that the cost of starting and maintaining the necessary fire in the coal range exceeds in each case the cost by any other method of preparation. This is due to the impossibility of confining and controlling the heat. When the correct temperature was secured for each single process there was ample space and heat in excess to do much more at the same time. This emphasizes the economy of the coal range when many processes may be carried on at once, as well as the wastefulness of maintaining the fire for a single or simple preparation.

This is further illustrated by a second study in which a dinner was prepared by each of the first three methods. The menu consisted of stock soup with tapioca; roast beef; browned potatoes; spinach; cranberry jelly; and bread pudding with meringue. The results are summarized in the following table:

COMPARATIVE COST OF COOKING A DINNER.

Kind of Stove Used.	Fuel Consumed.	Cost.
		<i>Cts.</i>
Coal Range	Coke 2 lbs., 12 oz. Coal 13 lbs., 4 oz.	6.05
Gas range	Gas (for cooking soup) 27 ft. Gas (for cooking soup) 12.41 ft. } = 39.41 ft.	3.34
Aladdin oven	Kerosene 1 lb., 3 oz. } = 2 lbs., 7 oz. Kerosene, (for cooking soup) 14 oz. }	3.53

^aIn comparing these results with those obtained by Miss Rinaker (p. 409) the great difference in the prices paid for coal should be noted. See also page 454

Here the expense is more nearly uniform. It will be noted that the cost of preparing the soup stock is not included as an extra expense with the coal range since there was ample heat and space to have prepared that with the same fire. It is legitimately added as an extra item to the cost of preparation in the other two cases, since it requires an extra burner in the case of the gas and the oven of the Aladdin oven was so filled with the other dishes to be prepared that there was no room for it at the same time.

With the original pans designed for the oven the space is more perfectly utilized than with the other household dishes, so that with those it might be possible to eliminate this additional cost.

Relative cost of fuel with low priced and higher priced meats.—One frequently hears the statement that if one is using gas as a fuel it is not economical to buy cheap cuts of meat which require long cooking, since the cost of fuel to prepare more than counter-balances the difference in price between such meats and those higher in price. The following table shows this to be erroneous, if the amount of fuel is intelligently regulated. The large amount of gas consumed in the short process, because of the more intense heat required, is nearly equal to that consumed in the longer process, provided the supply of gas is limited to the small amount necessary and desirable for the proper preparation of the cheaper cuts.

COMPARATIVE COST OF COOKING DIFFERENT MEATS.

Kinds of Meat.	Amount.	Cost.		Gas Consumed.	Cost of Gas.
		Cts.	Hours.	Cu. Ft.	Cts.
Porter house steak (serve 5 people) . . .	2 lbs. 8 oz.	75	0.2	13.18	1.12
Rib roast (4th rib) (serve 8 people) . . .	2 lbs., 6 oz.	50	1.25	33	2.8
Stew (Beef, round)	2 lbs.	28	4	25.26	2.14
Beef, corned (rolled brisket) (serve 12 people)	1 lbs. 4 oz.	52	5	45.42	3.83
Pot roast (shoulder) (serve 12 people) . . .	4 lbs.	52	5	45.42	3.83

The difference in cost of these meats and the number which each would serve should be considered together with the cost of fuel.

Tests With Careful and Careless Regulation of Burners.—The amount of gas consumed by a careful regulation of the supply as

compared with a careless use can be easily estimated from the following study. In this it was found that to consume one cubic foot of gas, there was required with 2 oven burners wide open, 1 min.; 1 oven burner wide open, 2 min.; and 1 oven burner about one-half open, 3 min. On the top of the stove, one cubic foot of gas was consumed by the double jet wide open in 2 min.; by the inner jet wide open in $4\frac{1}{4}$ min.; by the burner at simmering height in 29 min.; and by the burner at just boiling height in 15 to 19 min. From this it is seen that the consumption necessary, for instance, to prepare meats like stew, pot roast, corned beef and to cook vegetables should not exceed 1 foot in 15 to 19 minutes, while the frequent habit of turning the gas on fully for such cooking requires 1 foot in 4 to 5 minutes.

The desirable height of burners to give the amount necessary to maintain correct temperatures for the different processes of cooking is difficult to describe, but it is well worth the use of a thermometer to determine. Much less is required than is usually used, though this would result in a better product and smaller expense.

A very satisfactory means of economizing in the use of gas, especially with a small family, is by making use of a small oven set on the top of the stove. The economy in the space to be heated and in radiation of heat makes a marked difference in the amount of gas consumed. With an asbestos mat fitted into the lower part most foods can be very satisfactorily prepared in this way. Tests were made with a small sized oven, over one burner. This required 1 foot of gas in 16 minutes to maintain a temperature of 165° and 1 foot in 15 minutes for 195° in contrast to the consumption in the larger oven of 1 foot in 3 minutes 40 seconds for 165° , and 1 foot in 3 minutes for 195° , showing a consumption of five times as much gas by the larger oven.

Tests With a Fireless Cooker.—The results obtained with a fireless cooker are summarized in the following table. In making use of a fireless cooker the only expense for fuel is, of course, that necessary to start the process of cooking before a food is put into the cooker. It is desirable to vary this somewhat according to the nature of the food to be cooked, that the heat may better penetrate.

The foods cooked by this method were uniformly well cooked, quite equal to those cooked by the other methods, and in some cases, as the beets and ham, still better.

RESULTS WITH THE FIRELESS COOKER.

Kind of Food.	Amount.	Time on Gas Range.	Fuel Consumed.	Cost.
		<i>Minutes.</i>	<i>Cu. Ft.</i>	<i>Cts.</i>
Rolled oats	2 cups ^a (dry)	5	0.2	0.017
Rice, boiled	2 cups ^a (dry)	5	0.2	0.017
Beets	6	15	1	0.085
Lima beans	2	10	0.67	0.056
Ham	5 lbs.	30	2	0.17
Stew (Lamb)	2 lbs.	15	1	0.085

^aBefore adding water.

The cost is, of course, decidedly low. At the same time it is worthy of consideration that only a limited number of dishes can be prepared in this way, since only those can be satisfactorily prepared which allow of liquid either to cover, as in boiling, or to surround, as in steaming. Since the economy of fuel is trifling in a single case one should be assured that the opportunities for its use would be considerable, to warrant the purchase of a cooker at a cost of \$10 to \$15. If, however, one makes use of a home-constructed cooker, as may easily be done, the expense is merely for close granite-ware receptacles for the food and for the necessary material. A very satisfactory cooker may be made with an old trunk filled with hay pillows.

2. *Purchase of Food-Supplies*

In connection with the purchase of food supplies the present study has concerned itself with a consideration of: (a) The quantity of any supply desirable to purchase at one time; (b) buying in bulk or in packages; and (c) the value of different styles of package goods.

Quantity of Food-Supply at a Single Purchase.—The problem of the quantity of any supply which one may advantageously purchase at one time resolves itself into the questions of the money profit, and the extent to which it is possible to store or use a considerable supply. In seeking an answer to the first of these one finds interesting diversity of conditions, although in general, it is quite evident that at the present time less is saved by increasing the quantity purchased than formerly. Fewer merchants offer such inducements as "ten cents each, three for a quarter." Competition has reduced the margin of profits for

the retail dealer so that he has less range of price. He has adapted himself to the demand for small orders and frequent deliveries. There is a slight gain, usually, in such package goods as one can get by the dozen or even a fraction of a dozen. A more marked gain is possible when the amount purchased can be made large enough to strike out entirely the retail dealer with his profits and purchase of a wholesale dealer, when possible, or at practically wholesale prices. The individual housekeeper with average family can avail herself of this method at best in the case of only a limited number of supplies.

The present limitations in storage facilities are too well-known to the majority of housekeepers to need setting forth. All additional space means, to apartment dwellers, increased monthly rent, and suitable temperature for the storage of many supplies is impossible. This renders some advantageous purchases out of the question. Potatoes at 1.6 cents per pound by the bushel in contrast to 2 cents per pound in small quantity so deteriorate under unfavorable conditions as more than to offset the gain in buying the larger quantity. This holds true of other fresh vegetables and fruits.

It may, however, be questioned, we believe, whether we do not adjust ourselves too complacently to this condition and so overlook possible advantages which careful attention may discover as real and possible. There are considerable differences in some instances, a knowledge of which would materially aid in reducing expenses. The different sizes of olive oil cans, for instance, occupy practically the same space, while the reduction in cost for the larger amount is worth considering. Thus a 1 quart can costs \$0.65 and a 2 quart can only \$1.15. The decrease is not always proportionate to size. For instance, in three sizes of peanut butter, costing 10, 20 and 30 cents, the weight of the contents were for the 10-cent jar, 96.7 gms.; for the 20-cent jar 197.5 gms., and for the 30-cent jar 404.4 gms. so that while the prices were in the ratio of 1:2:3 the ratios of the weights of the contents were 1:2.04:4.18. This showed practically no advantage in the medium sized over the smaller amount, but a gain of twenty-five per cent in the largest sized jar. Of course this presupposes sufficient need of any product to warrant its purchase in large amount and such control of its use as to prevent wastefulness.

Bulk vs. Package Purchases.—When we compare the purchase of food supplies in bulk or in package we recognize at once the fact that packages are a more convenient and more sanitary form. Still, we do not always realize the price we pay for the difference. By making use of the package form the producer has found an ingenious and successful opportunity to cover the enormous expense arising from competition and advertising. The burden of this expense is eventually borne by the consumer, through scant measure, inferior quality or higher price. There is no doubt, for example, that the largest part of the 15 cents paid for a package of prepared cereal is the cost of advertising. This increase in cost represents no increase in nutritive value. Some labor and skill are involved, and some cost in fuel to prepare might be legitimately added, perhaps, to the cost of the uncooked forms, but this would be but a slight increase (see table on gas consumption). The increase is largely for advertising a process or manipulation, to answer the demand for novelty products, plain rice and corn meal mush having fallen under the ban as too "common," or troublesome.

It is easy to see the rate of increase in comparing the cost of the few cereals now available in bulk with some of the package products. Thus, rice in bulk, costs 8 to 10 cents per pound and the puffed rice 10 cents per package of 163.3 gms., which is at the rate of 27 cents per pound. Corn meal costs 2½ cents per pound, but corn flakes sell for 10 cents per package of 315.3 gms., or 14.3 cents per pound, so that only careful discrimination can discover true value. A further comparison of prices is found in the following illustrations:

A can containing 132.5 gms. of dried beef and costing 15 cents, or at the rate of 51 cents per pound was inferior in quality to that selling in the same market at the time for 35 cents per pound. Sliced bacon was selling in glass jars containing 268.3 gms. at 28 cents per jar, or at the rate of 47 cents per pound. In bulk the same day, a product superior in quality could be obtained for 25 cents per pound, and a pasteboard package of bacon was also on sale equal in weight and quality to that purchased in bulk.

The following table shows the comparative cost of different commercial brands of gelatine and sheet gelatine. In this case the strength and quality varied somewhat in favor of the higher priced, although not commensurately.

COMPARATIVE COST OF PROPRIETARY AND SHEET GELATINES.

Kind of Gelatine.	Weight of Package.	Cost of Package.	Weight of Gelatine.	Cost per Pound.
	<i>Gms.</i>	<i>Cts.</i>	<i>Gms.</i>	<i>Cts.</i>
C—.....	59	12.5	44.2	126
K—.....	45	15	33.5	195
K— ^e	63.1	12.5	42.2	129
P. R.	85.2	12.5	54.3	107
Sheet Gelatine	453.5	87		87

Filled dates in a glass jar selling at 25 cents consisted of 38 dates, weighing 239.2 gms., 7.8 gms. of walnut meats, 7.4 gms. of pecan meats, and 8.9 gms. of almond meats. In bulk, 38 dates, weighing 236.4 gms. cost (12 cents per pound) 7.8 cents; 7.8 gms. walnut meats at 60 c per pound cost 1 cent; 7.4 gms. pecan meats at 60c per pound cost 0.9 cents and 8.9 gms. almond meats at 60c per pound cost 1.1 cents, making the total cost 10.8 cents.

With corned beef hash, 187.2 gms. cost 20 cents or at the rate of 48 cents per pound. This expense would be in most homes a case of paying for "left-overs," since few thrifty housekeepers would buy fresh materials for this particular product. Provided one should, the comparative cost, as nearly as we could judge of the proportions in its composition, would be about 9.3 cents for $\frac{3}{4}$ lb. corned beef at 14 cents per pound, and 0.6 cents for $\frac{1}{4}$ lb. potatoes at 2 cents per pound, a total per pound of 9.9 cents.

In some cases advantage seems to be taken through the style of package. Perhaps the most striking example is found in the different forms in which olive oil is offered. In no case in the samples examined did the bottles of oil contain the amount expected, while all the cans of oil tested contained uniformly full measure. What would be thought of as a half-pint bottle contained a scant three fourths cup oil, or 143.1 gms.; a "pint" bottle contained one and one half cups oil, or 315 gms.; a "quart" bottle a scant two and two thirds cup, or 550 gms. and another "quart" bottle three and one half cups, or 735 gms. On the other hand two quart cans contained 806.1 gms. and 840 gms. respectively.

From these illustrations we see how impossible it is for any general rules to prevail, by observance of which the most successful purchasing may be accomplished. The infinite variety

of forms on the market makes a classified study of their merits impossible. Such a list could never be complete while the mushroom growth of the present time brings new forms almost daily. It is hoped, however, that the studies thus outlined may suggest the direction in which attention may profitably be turned by the housekeeper who aspires to secure the best results from her expenditures in the direction of food supply and its preparation.

There is a further very important factor which has not been included in this study which is, nevertheless, closely connected with many of the points discussed. This is the question of the time and labor involved. An increasing number of housekeepers have, either through necessity or choice, demands upon their time and strength which makes this an important consideration. To what extent may one be justified in a larger expenditure which results in a liberating of thought and energy for other things? This should be determined for each individual by a consideration of the possible usefulness of the time liberated together with a knowledge of the degree of difference in expense and in the quality of what may be purchased ready-prepared compared with the home product. It is to be regretted that little accurate investigation has yet been made in this direction. The study made by Miss Bigelow^a under the direction of The Boston Branch of The Association of Collegiate Alumnae is a valuable contribution and suggestive of much more which might profitably be studied.

^aMass. Bur. Statistics of Labor, Bul. 19 (1901), p 67.

FUELS AND THEIR UTILIZATION IN THE PROCESSES OF COOKING.^a

HARRIET BECKWITH RINAKEE.

Fuels used to produce heat for cooking purposes can be compared first under the heads of kindling temperature, rate of combustion, efficiency, ease of manipulation, disposal of by-products of combustion, and cost. If the kindling temperature be too low the element of danger from explosion is great, incurring great fire risk and menacing personal safety. If the kindling point is high a considerable time may be required to reach a suitable temperature for cooking. The rate of combustion must be considered, together with the possibility of controlling the process in order that the heat given off may be utilized to good advantage. A study of the heating efficiency is made to determine whether this is an economical proportion to the amount of fuel consumed and the labor required for the operation. The question of manipulation must be taken up. The saving of time as well as of labor is of importance to the housekeeper. A fuel may possess a good kindling temperature, high heating efficiency, and an easily controlled rate of combustion, and yet be so inconvenient of manipulation, or yield such troublesome by-products of combustion that it ranks low in desirability.

Further, the cost of the fuel used must be considered, not only as regards the price paid for the fuel itself, but the cost of the equipment necessary to handle it properly, as well as the whole cost in proportion to the efficiency obtained. While the cost price of a given fuel may vary in different locations, due to natural distribution of fuels, the same general conditions as to cost of equipment are likely to be fairly comparable.

Discussion of Fuels in General.—The fuels which are generally considered available for cooking processes are anthracite and bituminous coal; hard and soft wood; coal oil or kerosene and gasoline; natural and artificial gas; and electricity. A discussion of these with regard to the points mentioned as essential to a good fuel for cooking purposes will serve to point out their relative desirability.

^aThis is a condensation of a portion of a thesis submitted in partial fulfillment of the requirements for the Degree of Master of Arts in Household Science in The Graduate School of the University of Illinois, 1909.

The comparison of various grades of coal as given in the following table^a is interesting.

COMPARATIVE COMPOSITION OF VARIOUS GRADES OF COAL.

Kind of Coal.	Coke or Fixed Carbon.	Volatile Gases.	Moisture.	Ash.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
Bituminous	40-75	20-50	3-10	2-10
Semi-bituminous	70-80	10-20	1- 5	4-10
Semi-anthracite	80-90	5-10	1- 3	3- 5
Anthracite	85-93	3- 6	1- 3	3- 5

Thus anthracite coal, with its extremely high kindling temperature, as indicated by the high percentage of carbon and small amount of volatile gases, may be considered an undesirable fuel in this connection, for although the heating efficiency is high and a very small amount of ash is formed, the difficulty of burning this coal in any but a specially constructed fire box, and its slow rate of combustion, as well as its scarcity and relatively high price, make its use disadvantageous.

Bituminous, or "soft" coal on the other hand is widely used as a kitchen fuel. The supply is widely distributed and its cost comparatively low. Having a much lower ignition point than that of anthracite or "hard" coal, its heat is much more readily available. There is however, a high percentage of waste products—cinders, smoke and soot—so that it is considered by housekeepers a "dirty" fuel. Owing to its rapid rate of combustion more coal must frequently be added to the fire, while but a small amount of the heat given off can be utilized for cooking purposes, the remainder escaping up the chimney or heating the air of the room. W. R. Cooper states before the British Institute of Electrical Engineers that "Cooking in the ordinary kitchen range might almost be said to be a by-product of wasted heat"—an apt setting forth of the situation.

Wood, with from 20 to 30 percent fixed carbon, 55 to 65 percent volatile gases, 15 to 20 percent moisture and 1 to 3 percent ash, has been extensively used as kitchen fuel. It has a good kindling point, but the rate of combustion is rapid and not easily controlled, and while this fuel is a good source of quick heat, it

^aThe Elements of Physical Science, by F. D. Barber.

requires constant replenishing. The percentage of ash and smoke produced is low. However, owing to the comparatively limited supply and the questionable economy of using as fuel a product having so many other important uses, the use of wood as fuel is decreasing.

Both kerosene and gasoline are used quite commonly as fuels, there being little heat wasted, the rate of combustion easily controlled and but small amounts of waste products formed. However, especially in the case of gasoline, with its extremely low flashing point, there is great danger of explosion unless the operator has a good understanding of the principles involved in its use, and the apparatus for its combustion is carefully constructed. There are on the market good so-called "self-generating" stoves, as well as good kerosene stoves, the cost of manipulation being low in both cases.

Natural gas, underlying certain regions and supplied at a very low cost, combines some of the most desirable characteristics of a fuel. With a low kindling point, high heating efficiency, rate of combustion entirely under control, clean and convenient, it is quite ideal. However, gas wells are found in but limited regions, and outside of these districts natural gas cannot be supplied at any price. It may be added that natural gas, being usually devoid of characteristic odor, if escaping may cause danger from asphyxiation or explosion.

Artificial gas is more generally used, having all the advantages of natural gas, save that of cost, and being available in all parts of the country where coal is used. Since one ton of good gas coal produces, roughly speaking, 10,000 cubic feet of gas with 1400 pounds of coke, 120 pounds of coal tar and considerable ammonia as salable by-products it would seem that artificial gas could be put on the market at a price which would compare favorably with that of coal.

Electricity, which has only recently been made use of in cooking processes, presents some unusual advantages to the house-keeper. Being available from the moment the switch is turned there is the minimum amount of labor required to secure the heating efficiency. There is also little trouble in its manipulation, no appreciable loss of heat in the room, and no by-products of heat generation. The high cost of power and of the cooking utensils appears to be the greatest factors in preventing its more

general adoption. Mr. Cooper in the address previously referred to says, "It seems strange that the coal so wastefully used in the kitchen range cannot be converted into electricity in the power station and be transmitted to an electrical stove in the kitchen with a saving of cost of the house-holder."

Experimental Studies of Fuels.—The fuels selected for study were bituminous coal, artificial gas, and electricity. The basis of comparison was the cooking of typical meals for a day, viz. breakfast, luncheon and dinner, for a family of four persons. These meals were prepared with each of the fuels considered. The menus used were as follows:

Breakfast.—Fruit; pearls of wheat; cream; broiled bacon; baking powder biscuit; coffee.

Luncheon.—Meat croquettes; peas (canned); Parkerhouse rolls; baked apples; sponge cake; cocoa.

Dinner.—Tomato soup; wafers; roast beef; brown potatoes; scalloped corn; fresh bread; lettuce salad with cooked dressing; fruit short cake; coffee.

Tests with Coal.—The coal used is known to the trade as "Pocahontas," being a West Virginia bituminous coal and having the following composition as supplied by S. W. Parr, Professor of Applied Chemistry in the University of Illinois: Ash, 5.26 percent; moisture, 0.56 percent; volatile matter, 16.50 percent; fixed carbon, 77.68 percent; sulphur, 0.52 percent; and calories per kilo, 8,288.

All coal and kindling used were weighed. The meals were served at 8:00 a. m., 12:30 p. m. and 6:00 p. m. The stove drafts were closed when cooking was not in progress.

The range used was of medium price and in excellent condition. Difficulty was experienced in keeping uniform temperatures for baking. The oven thermometer provided with the range was found to be inaccurate, so a chemical thermometer in a metal case was placed in the oven. Heat was, however, lost in opening the oven door to read this thermometer.

While using the range the room temperature was greatly raised, a thermometer in an adjoining room without range fire registering 17°C in the morning when this kitchen showed 28½°C. In the afternoon, during bread baking, the temperatures of the two rooms were 22° and 35° respectively. On days when the range was not in use no greater difference than one degree was observed in the temperatures of the two rooms.

It should be noted that while the fire was maintained for cooking purposes for eleven hours, during the first three hours of use $12\frac{1}{8}$ pounds or 37.3 percent of the total fuel consumed, was used, although by far the largest amount of cooking was done after this time. From this it would appear that the amount of fuel used in building the fire was out of proportion to the amount used later.

In further substantiation of this point another test was made, using the same menu as before. One hour was required to heat the oven to baking temperature, and while this appears excessive, repeated experiments gave similar results, unless a large amount of oil and wood was used as kindling.

While there was much heat wasted by diffusion and radiation into the room, and by draft into the chimney, there was considerable stove space which might have been utilized had there been more food to be prepared. Moreover, with the coal range there is the utilization of heat otherwise wanted in heating the water supply of the house.

The quality of the food prepared was uniformly good, but the process may be characterized as hard, since constant watching was necessary in order to control, even roughly, the temperature, while the rise in room temperature made the work unpleasant.

The cost of the range and utensils necessary for cooking the articles specified was estimated as approximately \$48.74.

Tests with Gas.—These tests were with coal gas, which was measured by means of a standard meter. A range, having three medium burners, one large burner and one simmering burner, also a large oven with broiler underneath, was used.

The time required to consume one cubic foot of gas by the various burners turned on at full capacity at ordinary pressure was as follows: Large burner, $2\frac{1}{8}$ min.; medium burner, $3\frac{1}{2}$ min.; simmering burner, 16 min.; one oven burner, 3 min., and both oven burners, $1\frac{1}{2}$ min.

Fifteen minutes were required using both oven burners at full capacity to raise the temperature of the oven from 25° to 225°C , consuming thereby 10 cu. ft. of gas. By means of a chemical thermometer suspended through the top of the oven, temperature readings could be taken without opening the door. Owing to loose construction and imperfect insulation, there was a considerable radiation of heat, causing a rise of 4°C in the temperature

of the room near the range. Since the range was hooded there was no evidence of the presence of combustion products.

The total amount of gas consumed during the day, 147.32 cu. ft., may seem an excessive amount, but it should be remembered that the meals prepared do not represent an average daily consumption of gas, since an unusual amount of baking was done. Furthermore, it should be stated that 124.92 cu. ft. or 84.7 percent of the total amount of gas consumed was used in heating the oven. It would appear then of great importance that ovens be so constructed that a higher percentage of the heat generated might be conserved, and, in consequence, the amount required to maintain the high temperature be reduced to the minimum.

The use of gas as fuel was satisfactory from the standpoint of ease of manipulation, control of the rate of combustion, and quality of the food. While considerable heat was lost by diffusion the rise in room temperature was not sufficient to be oppressive, although the fact that the range was hooded may be in part responsible for this condition.

The estimated cost of equipment and utensils was \$33.99.

Tests with Electricity.—The apparatus used for this experiment was made up of the following pieces:

(a) An oven having the heating element inbedded in the plates of the top and bottom of the oven. The oven was well insulated there being little heat radiated from it. For convenience a door with double glass pane was substituted for the metal door provided, and a small incandescent lamp was put inside the oven, making it possible to observe the baking processes without opening the door. A chemical thermometer inserted through the top of the oven made it possible to note the temperature of the oven without opening the door.

(b) A stove, or hot plate, consisting of a cast iron disk, 6 inches in diameter, having the heating element embedded in a non-conducting compound, directly under the plate.

(c) A stove, similar in construction to the one just described, equipped with a double boiler, having an earthenware inner kettle. The double boiler locked to the stove, securing the close contact. The switch was so arranged that the amount of current used could be regulated three degrees: low, medium and high being available.

(d) A coffee percolator, having the heating element inside the base.

(e) A broiler of fluted cast iron. This has three heats, as in (c).

(f) A combination water heater, steamer and double boiler, having the heating element inside the base, as in the percolator. This has three heats.

Considerable time was required and energy expended in heating the apparatus before cooking processes began, especially in the case of the oven, which required from 30 to 35 minutes to reach a temperature of 225°C. Here as in the experiment with gas, a high percentage of the total energy required (in this case 78.9%) was used in oven cooking. All the apparatus seemed to hold the heat well, it being possible to turn off the current from five to ten minutes before the cooking was completed.

Much has been said in articles written with a view toward popularizing the adoption of electricity for cooking, concerning "the excellence of engineering design" and "great ingenuity" displayed in the construction of electrical cooking utensils. Although the utensils used in these experiments were selected as the best types obtainable they were uniformly heavy and hard to handle, one piece, the broiler, weighing 12.5 pounds. The lower part of the double boiler was evidently constructed with no regard to the fact that it would some day require washing, and its earthenware inner kettle, while attractive in appearance, was suitable for cooking only at a very low temperature, since its contents could not be raised above 80° C. even by prolonged heating. The seams of the water heater were not water tight, outside, and in washing, water gained entrance to the heat coils, causing some trouble. Closeness of contact seems absolutely necessary in order to secure any great amount of efficiency, so stoves with specially constructed kettles which lock upon them seemed most satisfactory.

The results obtained from cooking by means of electricity were uniformly good, the temperature being remarkably even, and easily maintained. Since there is no flame, smoke, soot or ashes, there is a great saving in labor, no vitiation of the atmosphere and no appreciable rise in room temperature. The voltage used is low, 110 volts being usually employed, so there is little danger from shock.

The cost of installation and utensils is estimated as \$115.27.

It is here apparent that the cost of utensils necessary for electrical cooking is extremely high, being almost prohibitive to families of moderate means. An added cost is probable in installing wiring of sufficient strength to carry safely the current required for a cooking circuit.

Discussion of results.—A comparison of the results as shown in the data may now be made.

In regard to the time of cooking the following results are noted:

COMPARATIVE TIME REQUIRED FOR COOKING WITH COAL GAS, AND
ELECTRICITY.

Article.	Coal.	Gas.	Electricity.
<i>Breakfast—</i>	<i>Min.</i>	<i>Min.</i>	<i>Min.</i>
Cereal	70	65	81.5
Bacon	7	7	9
Biscuits and apples	71	35	70
Coffee	7	13	15
Total.	a	120	175.5
<i>Lunch—</i>			
Sponge cake	55	52	65.75
Croquettes	30	15	34
Peas	15	2.25	11
Cocoa	40	8	41.5
Rolls	14	30	49
Total.	a	107.35	201.25
<i>Dinner—</i>			
Bread	45	67	70
Roast	100	87	144.25
Coffee	7	13	15
Dressing	8	8	20
Soup	30	30	44.5
Total.	a	205	293.75
Total.		430	670.5

In attempting to draw general conclusions from these data, a number of factors must be borne in mind. The time of cooking as tabulated is estimated from the time the first heat is generated until its use is discontinued except that in the case of the coal range, in which a fire was maintained throughout the day, only the breakfast data could be so computed, and the figures recorded for the later operations represent the time during which the article to be cooked was in or on the stove. Therefore, the coal data, as regards specific time of cooking, are not comparable with those

aNot computed. See explanation below.

of either gas or electricity. It should also be noted that the total time recorded above is made up, in the gas and electricity data, by the addition of the time required to cook each separate article, even though several things were in process of cooking at the same time.

Similar tables might be compiled pointing out in detail the comparative amounts of fuel used, and the cost of each operation. Instead it has been thought better to combine the results in tabulated form as follows:

COMPARATIVE ECONOMY IN COOKING WITH COAL, GAS AND ELECTRICITY.

	COAL.			GAS.			ELECTRICITY.		
	Time.	Amount of Fuel.	Cost.	Time.	Amount of Fuel.	Cost.	Time.	Amount of Fuel.	Cost.
	Min.	Lbs	Cts.	Min.	Cu. Ft.	Cts.	Min.	Watt-hours.	Cts.
Breakfast	a	12.125	3.03	120	32.3	4.03	175.5	2295.6	11.48
Lunch . . .	a	6.625	1.65	107.35	43.43	5.42	201.25	2683.45	13.42
Dinner . . .	a	13.75	3.44	205	71.59	8.94	293.75	5028.475	25.14
Total . . .	663	32.50	8.13	432.35	147.32	18.39	670.5	10007.6	50.00

aFor the reasons explained above no estimate is attempted of the time required for the separate meals. The total figure represents the entire time intervening from the lighting of the fire in the morning till the completion of the cooking.

From this table it is concluded that electricity requires slightly more time than coal for the same operation, and both require approximately one and one half times as long as was needed with gas.

As regards available efficiency for cooking, 32.5 pounds of coal equals 147.32 cu. ft. of gas and 10,007.6 watt hours of electricity. Considered from the standpoint of cost, gas at \$1.25 per 1000 cu. ft. is 2.26 times as expensive as coal at \$5.00 a ton. Electricity at 5 cts. per watt hour is 6.16 times as expensive as coal, and 2.72 times as expensive as gas. At these same prices, therefore, \$1.00 invested in coal would provide for the same amount of cooking as \$2.26 invested in gas, or as \$6.16 invested in electrical current.^b

^bIn attempting a comparison of the results reported in this paper with those recorded in that of Miss Terrill, immediately preceding, the difference in local conditions as to price, etc., should be carefully considered. See also p. 399.

CAKE MIXING.

MABEL T. WELLMAN.

A special class at the University of Chicago began some work on cake which started three of us to further experimentation for a quarter of the year, and finally left me to a quarter's work by myself. Our method was to use exact weighed amounts of ingredients. We used the standard three cups of flour recipe, usually making one-fourth amounts, but occasionally repeating with the full amount as a check on results. The cakes were all baked in gas ovens with thermometers inserted so that we controlled temperatures exactly.

A number of interesting results were obtained. First, we found that none of our utensils were standard or even uniform as measures. The average weight of whites and yolks of eggs we found as 30 and 20 gms. respectively, values which are of course well within the range on which the average data usually quoted are based. We also found that a cup of flour once-sifted might vary considerably in weight with the same person in repeated fillings, and easily 25 gms. when different people filled it. Of course, sifted and unsifted flour varied greatly, but there was not much lessening of the weight after the second sifting. The difference we found here suggested possible explanations of varying results with the same recipe in the hands of even fairly careful individuals.

As a result of much weighing we adopted the following table of weight which was used during the second and third quarters' work:

KITCHEN MEASURES EXPRESSED IN GRAMS.

Measure	Gms.	Measure	Gms.
1 cup of water	237	1 cup of flour (Swansdown)...	100
1 " " milk	244	1 egg white.....	30
1 " " sugar	210	1 egg yolk.....	20
1 " " butter.....	227	1 teaspoon baking powder	3
1 " " flour (pastry).....	100	1 " " cream of tartar	3.5

The oven temperature adopted as a standard was 195°C

Much that we did requires further experimentation before conclusive results can be obtained, especially on the question of varying proportions. In some of the problems of mixing, however, we felt reasonably sure of results. We found that while the cake was not so good if the butter and sugar were not thor-

oughly creamed, that *in every case except in making pound cake*, the butter could be *melted* and beaten in before adding the white of egg. We would mix a cake, for example, in the following order: Take $1\frac{1}{2}$ cups of sugar beaten into the yolks of four eggs; 3 cups of flour with 3 teaspoonsful of baking powder added alternately with $\frac{3}{4}$ cup of milk; $\frac{3}{4}$ cup of melted butter beaten in thoroughly; and the beaten whites of 4 eggs. Sometimes we dissolved part of the sugar in the milk. If only yolks were used, we kept the same order, adding the butter last.

Cakes mixed in this way and baked beside cakes of the same proportions mixed in the conventional manner could not be told apart in appearance or taste after baking, although the batter differed in appearance before baking.

Some further work made us believe that the whole question is one of getting the ingredients thoroughly mixed. The difficulty of putting everything in together before stirring seems to lie in this. One can see particles of egg in the baked result. Pound cake contains so little liquid—practically none except the egg—that possibly this accounts for the failure to succeed with melted butter.

Some further work done at the university does not accord with Miss Watson's work as recently reported.^a Repeated experiments showed that melted butter could be used in mixing baking powder biscuits if due care was used to beat it in thoroughly; and such biscuit compared favorably both in texture and tenderness.

It is somewhat difficult to measure exactly the time saved by using melted butter in cake instead of creaming the butter with the sugar, for the time necessary for that process varies with the season, and with the amounts used; but it was found, on the average, to save half of the time consumed in mixing.

^aAnn. Rpt. Ontario Agl. Col. and Expt. Farm, 33, (1907), p. 244; abs. in U. S. Dept. Agr. Farmers' Bul. 360, p. 32.

THE CHRISTMAS PLUM PUDDING.

An English authority has recently stated that plum pudding is not the deadly combination it is commonly thought to be, but that it is a concentrated food containing both protein, fat and carbohydrates in abundance and so more fitted to serve as a meal than to be crowded in at the end of a hearty dinner. In other words, it is harmful because wrongly used rather than because of any inherent qualities. Commenting on this, G. K. Chesterton, says in a recent issue of the *Illustrated London News*:

"The doctors have now discovered that Christmas pudding is an exquisitely hygienic and harmless food. That is typical of all the developments of scientific thought in our day. Many prophets and righteous men, many thinkers and idealists, have wasted their lives in running after scientific truth. Never run after scientific truth. Stand where you are, and in a few years scientific truth will run after you. Continue to eat pork, and sooner or later the doctors will say that pork is the only food that is perfectly digestible. Continue to drink port, and sooner or later a man will arise in medical circles who will prove that port is the only certain safeguard against gout. The specialist may have told you to take your children to the seaside, but if you are only long enough in packing he will very likely have discovered that sea air is poison before you start. The best authorities may have told you (if your chest is weak) to make your bed in your back garden for a year. They may be telling you to grow tulips in your bedroom the next year. In fact, I did definitely see in a medical article the other day that the fresh-air cure ought to be given up, as fresh air was not so good a thing as had been supposed. The truth of the matter is, I suppose, that what a medical theorist has to do is almost exactly the same as what a social or historical theorist has to do; he has to strike an average between an enormous number of effects produced by one thing, all of them different effects, some of them contradictory effects. It is as difficult (I expect) to say whether the effect of sherry is good or bad as to say whether the effect of Napoleon was good or bad. Among these ordinary human things there is no such thing as the simple poison and the simple antidote. Napoleon was not a poison; he was a dangerous stimulant. Wellington was not an antidote; he was a very dangerous substitute."

WILLIAM STITH, AN EARLY AMERICAN STUDENT OF NUTRITION.

Among earlier American articles on nutrition the inaugural dissertation on digestion by William Stith of Virginia, who was graduated from the Medical Department of the University of Pennsylvania in 1821, deserves mention. Stith discusses digestion, the digestive apparatus, hunger and thirst, mastication and salivary solution, deglutition, digestion in the stomach, digestion in the duodenum, and the action of the small intestines.

His paper may be assumed to represent fairly the opinions which were generally held at the time he wrote. So far as can be learned his dissertation was never published. Through the courtesy of the University of Pennsylvania it has been possible to examine the original manuscript and make transcriptions. As yet it has not been possible to obtain additional biographical data regarding Dr. Stith.

The title page reads as follows:

"AN INAUGURAL DISSERTATION ON DIGESTION, WM. STITH,
VIRGINIA.

Admitted March 16th, 1821."

The introductory sections of the dissertation and quotations from the section on digestion in the stomach follow.

OF DIGESTION.

By the term digestion we are to understand that function of assimilation, by which the various changes are produced, which extraneous substances undergo, when subjected to the action of the digestive apparatus; producing a compound eminently subservient to the growth and nourishment of the body. Owing to the changes of composition and decomposition that are continually going on in all living bodies, a disunion of their elements, an alteration and decomposition of the whole mass, constituting the body, would necessarily ensue, if not prevented through the medium of assimilation, which, consisting of the changes that the food undergoes when taken into the digestive

system, or digestion and chylication, of the changes that are wrought on the nutritive fluid, during its circulation through the body, or in other words, languification and secretion, and also of the lodgement and removal of its particles in almost every part of the body, constituting what are called nutrition and absorption, serves the purpose of reproduction. This internal motion takes place to such a degree that the animal machine is entirely renewed in the course of several years. Experiments have been made by physiologists tending to ascertain the exact period, at which this renewal happens. Some have supposed that it happens at the expiration of seven years; some in three years, and others have even gone so far as to assert that it takes place in the short space of fifty days; but these calculations are liable to great uncertainties and almost insuperable objections, occasioned by the different degrees of health, sickness, age, temperament, etc. Owing to this entire renovation, the human body has been very ingeniously compared to the famous ship, *Argo*, which, after her long and perilous voyage, contained not a particle of her original "materials."

OF DIGESTION IN THE STOMACH.

"The aliment, after having received the impression of mastication and the saliva, is accumulated in the stomach; there to be influenced by changes still more important than those hitherto noticed; but what these changes are, is yet undecided.

"Before I proceed to speak of the processes, which are now generally supposed to effect digestion in the stomach, it may not be improper to mention the various theories, that have been advanced on the subject. * * *

"Concoction is the first theory that was advanced to explain the phenomena of digestion. It is the theory of the ancients; but they did not mean by the term, to signify that heat is the sole cause of digestion; but that it is the principal agent; as the word itself imports. Certain it is that heat is essentially necessary to the due performance of digestion. This is shown by the experiments of Spallanzani, which prove, that the gastric juice, one of the principal agents of digestion, has no more effect than common water in dissolving alimentary substances, when the temperature is below twenty-one degrees of Fahrenheit's thermometer; but on the contrary, that its activity

is considerably increased, when the temperature is raised to thirty two degrees above the freezing point. Mr. John Hunter thinks that heat is not the immediate, but the remote cause of digestion; producing in the animal an increased activity of all its functions. Dr. Jenner speaks to the same purpose. * * *

The next theory is Fermentation, which was invented by the chemists, who prosecuted it with such zeal, that at one time it was generally adopted; but in the present reformed state of our science it has fallen into disrepute. The principal argument, on which it rests, is, that only those substances afford nourishment, which are capable of undergoing the process of fermentation. * * * It would seem that digestion and fermentation are directly opposed to each other, the one having for its object the nourishment and preservation of the body, whereas the other tends continually to its destruction.

"The next theory that attracts our attention is Trituration. This is the invention of the mechanical philosophers, who, reasoning from false analogy, compared the changes which the food undergoes in the gizzard of the fowl to those wrought by the stomach; but the comparison is extremely improper, since the one viz., the gizzard is really the organ of mastication, and the other that of digestion. Drs. Stevens and Spallanzani performed experiments tending to prove that digestion is effected independently of trituration. To effect this purpose the one caused to be swallowed, and the other himself swallowed, small tubes containing digestible articles, when on examination, after they were expelled from the stomach, they were found to have undergone digestion. Moreover, it is sufficiently known, that certain substances, as the seeds of various vegetables, etc., frequently pass through the digestive system without being triturated or even materially altered.

"Maceration is another theory that was proposed to explain the phenomena of digestion. It was the opinion of the illustrious Haller that the aliment in the stomach undergoes a slow degree of maceration, and that this is effected partly by the gastric juice, and partly by other secondary causes. The four-fold stomach of certain animals at first view appears to add great plausibility to this hypothesis, but by further examination we shall be led to believe that this structure is intended merely to detain the food for the purpose of producing some changes,

similar to maceration, preparatory to the real digestive process.

* * * Maceration is inadequate to the product of digestion, since it only softens and dissolves the alimentary mass without effecting any new compounds.

"All these hypotheses being abandoned as insufficient to account for the phenomena of digestion, it was necessary that some other should be proposed; accordingly we find that the attention of physiologists was directed more particularly to the investigation of the gastric juice. This fluid, so curious and interesting in its properties, is secreted by the exhalent arteries ramifying on the internal surface of the stomach.

"Its nature has been a matter of much dispute among physiologists. Some have supposed it to be acid, and some alkaline; while others have believed it to be exclusively acid in some, and alkaline in other animals; but we are led by the experiments of Spallanzani, J. Hunter, and Dumas, to infer that it is neither exclusively acid nor alkaline in different animals, but nearly the same in all, though, from the result of some of their experiments, they seem to think that it may be altered according to the nature and quality of the food on which the animal may feed. Thus they found that when vegetables were used it was decidedly acid, and on the contrary, when animal flesh was used, it exhibited alkaline properties.

"It is powerfully antiseptic; so much so that if substances in a state of putrefaction be taken into the stomach, that process will sometimes be entirely suspended; though Mr. Hunter denies that it possesses any such property; but says, that substances, when subjected to its action, are made to go through another process; thereby preventing their spontaneous changes from taking place.

"The most important and interesting property of the gastric juice is its powerfully solvent quality. It is so powerful, that even the hardest substances can scarcely resist its action. It is truly astonishing to see its effects in some animals. In the dog, for instance, it dissolves, without difficulty, the hardest bones on which this animal sometimes feeds. Howsoever powerful the solvent quality of the gastric juice may be, it does not act on the stomach whilst vitality remains; but as soon as that departs, so soon does the stomach, then like other dead matter, yield to its influence.

"The gastric juice in its effects has been compared to galvanism, and the parieties of the stomach to a galvanic battery; but all these experiments, and the opinions deduced from them must be greatly deficient, since they are performed independently of vitality, which, by its powerful influence produces effects that could not otherwise be produced. If it should be asked, why is digestion promoted by the application of galvanism to the stomach? it might be answered, that it does not produce this effect, from an identity of operation to the gastric fluid; but simply, like other stimulants, by increasing the activity of the stomach.

"The present and most popular theory of digestion in the stomach ascribes it principally to a solution of the aliments by the gastric juice; by which the materials of the aliment are decomposed, and new compounds are formed, possessing properties totally different from the original. The changes which are produced by the gastric juice are probably purely chemical; though the stomach cannot be considered as a vessel in which digestion is performed solely by chemical means; if so the product of digestion could be artificially obtained; but, on the contrary, it must be considered as a highly complicated function, dependent on several other auxiliary causes, such as animal heat, an internal motion of the aliment, somewhat resembling fermentation, but being probably very different, the gradual contraction of the muscular fibres of the stomach, etc. The digestive process may, therefore, be said to consist of vital, chemical, and mechanical causes. Dr. Fordyce denies that any chemical effect is produced on the aliment by the gastric juice; but thinks that the alimentary substances, which have in themselves all the elements of chyle, are, by the action of the stomach and other organs of digestion, decomposed and recombined in the form of a new substance. Whatever the action of the gastric juice may be, in producing digestion, certain it is that it has a tendency to coagulate alimentary substances. Accordingly we find that the first change, which the food generally undergoes in the stomach, is coagulation.

"This takes place so uniformly that it would seem as if it were necessarily preparatory to digestion; nevertheless this process does not universally take place; water and alcohol, for instance, do not coagulate; but previously to the passage of the food out

of the stomach, this coagulation is dissolved to form that soft pultacious mass denominated chyme. The whole mass of food is not digested at the same time, but only that part which is in contact with the stomach. This part after having been converted into chyme, is, by the motion of the stomach, forced through the pylorus, when another stratum of the aliment comes in contact with the parietes of the stomach to be effected in like manner. Thus digestion proceeds from the circumference to the centre. The aliment remains in the stomach a longer or shorter time, according as it is more or less digestible; not a particle of it being suffered to escape unless thoroughly digested.

"This office of preventing the passage of indigestible matter from the stomach is performed by the pylorus, which by its tender and elective sensibility yields only to the impression of the homogeneous chyme, to which by habit it has become perfectly accustomed; unless some indigestible substance be swallowed, which, by repeatedly coming in contact with the pylorus accustoms it to its impression, and thus a passage is afforded. While digestion is going on in the stomach, if it be perfect, both of its orifices are accurately shut. There is also at this time an increased activity of the stomach, caused by the metastasis of the vital power, deserting partially the other parts of the body to concentrate itself in that which is the seat of the digestive process. In this manner we may be able to explain the cause of the deaths which so frequently happen in convalescents, who indulge themselves in eating articles of a nature too indigestible to yield to the feeble powers of their systems; by which so considerable a portion of vitality, deserting the other parts of the body to pass to the stomach, leaves them in such a debilitated condition that it is beyond their power to react, and death follows as a necessary consequence. In this manner we may also explain why digestion is better performed in a state of rest than in a state of activity. If exercise be taken, that power which would otherwise be concentrated in the stomach for the purpose of increasing the activity of digestion, will be allotted to other organs for the discharge of their respective functions, and consequently digestion will not be so perfectly performed as it would, had not this power been thus distributed. On the same principle we may also account for the drowsiness which is generally felt a short time after meals. In the commencement of digestion a slight chill is generally perceived; the pulse becomes quicker and

harder; the stomach begins to act; its fibres at first irregularly, but after a short time regularly. Those which are circular commence their contractions at the cardia and proceed to the pylorus; whilst those which are longitudinal act so as to approximate its two extremities; by which means the angle formed at the pylorus is somewhat overcome, thereby facilitating the passage of the food into the duodenum. It has been ascertained that digestion is better performed during sleep, when we lie on our right than on our left side. The cause of this has been attributed to the weight of the liver, pressing on the stomach when the left side is down.

"But this mechanical theory is a very unsatisfactory one. Might it not be much better explained by attributing it to an easier passage of the food through the pylorus when we lie on the right side? As the stomach empties itself the chill goes off and is succeeded by a degree of warmth, which increases the perspiration; an effect then is produced somewhat similar to a paroxysm of fever. Digestion is considerably influenced by nervous action. If the eighth pair of nerves be tied or cut, digestion will be either imperfectly performed, or entirely suspended. Majendie of Paris thinks that the tying or cutting of the eighth pair of nerves does not influence digestion by acting immediately on the stomach but by suspending the function of the lungs. To evince this, he cut the eighth pair of nerves below the branch which supplies the lungs; when the result was that digestion was not materially interrupted; but on the contrary, when the same nerve was divided above the branch which goes to the lungs, that digestion was entirely suspended. Passions of the mind, narcotic substances, or anything lessening the excitability of the stomach produce an effect somewhat similar."

In the remainder of his paper Dr. Stith discusses digestion in the duodenum and other phases of digestion. The quotations given are sufficient to show how he treats his subject.

That the University of Pennsylvania medical department paid considerable attention to nutrition in the earlier part of the nineteenth century is evident from an examination of the published list of titles of dissertations. The work of Stith, and of Caleb Tichnor and John R. Young which has been quoted at length in the earlier numbers of this JOURNAL, shows that this work was of high grade and real value.

THE PROGRESS OF SANITATION WITH SPECIAL REFERENCE TO THE INFLUENCE OF PURE WATER AND AIR UPON THE HEALTH OF COMMUNITIES.

By GEO. M. KOBER, M.D., LL.D.

Professor of Hygiene, School of Medicine, Georgetown University.

Professor Finkelnburg of Bonn estimated some years ago that the average length of human life in the sixteenth century was only between eighteen and twenty years. At the close of the eighteenth century it was a little over thirty years, while today it varies in different countries from less than twenty-five to more than fifty years. Longevity goes hand in hand with improved sanitation; the span of life since 1880 has been lengthened in civilized countries fully six years.

No two factors have contributed so much to the general results as the improvement of the air we breathe and the water we drink. We have ample evidence that with the introduction of public water supplies and sewers the general mortality in numerous cities during the past fifty years has been reduced fully one-half, the good effects being especially shown by a marked decrease in the number of deaths from typhoid fever, diarrheal diseases and consumption. The vital statistics of Great Britain furnish the proof and our experience with German and American cities confirms this conclusion.

The death rate in the city of Berlin has been reduced from 32.9 per 1000 in 1875 to 16.4 in 1904; in Munich from 41.6 in 1871 to 18 in 1906, and in Washington from 28.08 in 1875 to 19.25 in 1907.

The death rate in the city of New York in 1804 was 28 per 1,000; from 1850 to 1854 it was 38 per 1,000; while in 1906 in spite of the density of population it was 18.9 per 1,000, practically a reduction of 50 per cent, which according to Walter F. Wilcox^a of Cornell University, means a saving of something like 46,000 lives each year in that city alone.

The mortality in the registration area in the United States has been reduced since 1890 from 19.6 to 16.2 per 1,000 in 1905, which means a saving of over 290,000 lives a year.

^aMonthly Bulletin N. Y. State Dept. of Health, March, 1908.

It has long since been known that rivers are always purer near their source; the amount of impurities increases as we descend the stream, since the water courses are the natural drainage channels of the country and the wastes of human life and occupations find their way into the streams. It is also well known that our large American rivers are the sewers and at the same time the source of water supply for nearly all the cities located on their banks. These cities show, moreover, a marked prevalence of typhoid fever, thus confirming what has been observed over and over again, that this disease, as also cholera, dysentery and diarrhoeal diseases can be carried from one town or city to another by means of inland waterways. The question is one of extreme interest even to the residents along the Great Lakes; we know that large cities like Buffalo, Erie, Cleveland, Detroit, and Milwaukee discharge their sewage into the Lakes, and we also know how Chicago and Cleveland suffered from typhoid fever visitations by contaminating their own water supplies. It is also a well-known fact that many of the river cities were obliged to resort to purification of their water supplies in order to arrest the ever increasing typhoid fever wave.

Influence of Water Supplies upon Typhoid Fever Death Rates.—For the purpose of determining the influence of public water supplies on the typhoid fever death-rates in general, Mr. M. O. Leighton, Chief of the Water Resources Branch of the U. S. Geological Survey, very courteously complied with my request for a list of the principal American cities with a population of over 30,000 classified according to their water supply. Dr. Cressy L. Wilbur, Chief Statistician of Vital Statistics, Bureau of the Census, with equal promptness and accuracy has computed the mean rate (not the average annual rate, which, however, differs only slightly for the five years 1902 to 1906), and has arranged them in a chart, a summary of which is as follows:

MEAN TYPHOID FEVER DEATH RATE FROM 1902 TO 1906.

	Ratio per 100,000 of population.
4 Cities using ground water from large wells	18.1
18 Cities using impounded and conserved rivers or streams	18.5
8 Cities using water from small protected lakes	19.3
7 Cities using water from the Great Lakes	32.8
5 Cities using both surface and underground water	45.7
19 Cities using polluted river water	61.1

The Hygienic Value of Pure Water: Annual Cost of Typhoid Fever in the United States.—According to the Census of 1900 there were 35,379 deaths from typhoid fever during the census year throughout the United States; and based on an estimated mortality of 10 per cent it is within reason to assume a yearly prevalence of 353,790 cases of this disease. If we calculate the average cost for care, treatment and loss of work to be \$300 and the average value of a human life at \$5,000 we have a total loss in the United States of \$283,032,000 from one of the so-called preventable diseases. Mr. George C. Whipple^a presents some striking evidence to indicate that a loss of \$10,000 for every death from typhoid fever is a conservative estimate, in which case the decrease in the "vital assets" during the census year of 1900, would amount to \$353,790,000. Reduce the prevalence of the disease one half (which has been accomplished in parts of Europe and our own country), and the question of the hygienic value of pure water will be answered.

The Effect of Improved Water Supply on Typhoid Fever Death Rates.—The writer at the White House Conference presented charts prepared by Dr. Wilbur showing the general movement of typhoid fever in fourteen countries and cities since 1881, indicating that the death rate from this disease has fallen from an average of 42.3 to 18.1 per 100,000, a reduction of 54.3 per cent.

He also presented a chart showing the effect of change in water supply in seven American cities viz., Lawrence, Lowell, Newark, Jersey City, Paterson, Albany and Binghamton. From this study we learn that the combined average annual death rate from typhoid fever in cities with a contaminated supply was 69.4 and that after the substitution of a pure supply it fell to 19.8 per 100,000; a reduction of 70.5 per cent.

The Bulletin for the month of April, 1908, of the New York State Department of Health contains an interesting article showing that the death rate from typhoid fever in ten cities of that State has been reduced 53.4 per cent by improved water supplies.

It may be urged that improved methods of medical treatment are responsible for a considerable reduction in the death rates from typhoid fever, but when we see such a striking change immediately after the installation of filtration plants as in the

^aThe Value of Pure Water, New York, 1905, p. 5.

case of Albany, Lawrence, and also more recently in Cincinnati and Philadelphia, we are forced to the conclusion that water purification plays the most important role by diminishing primarily the number of cases. It should be stated, however, that the effects are still more marked when combined with a good system of sewerage. The history of every sewered town shows a lessening of the typhoid death rate and that the typhoid rate is always higher in sections of the same city supplied with makeshifts. The writer in 1895 pointed out that typhoid fever prevailed in Washington in the rate of 1 to 81 of houses supplied with privies, and only 1 in 149 of those connected with sewers, and offered as the only reasonable explanation, that the sewers carry away the filth and germs that otherwise would contaminate the soil and ground water. Even if there were no wells these makeshifts are still a source of danger in so far as they favor the transmission of the infection by means of flies^a, nor can the possibility be ignored that the germs in leaky and overflowing boxes may reach the upper layer of the soil and with pulverized dust gain access to the system.

The writer believes that about 80 per cent of the cases of typhoid fever are water and milk-borne and that about 20 per cent may be spread through the agency of flies, personal contact, the consumption of raw oysters and shell fish raised in sewage polluted waters, or the eating of strawberries, radishes, celery, lettuce and other vegetables and fruits which have been contaminated with infected night soil.

Other Water-Borne Diseases.—What has been said of typhoid fever is equally true of other water-borne diseases like cholera, dysentery, cholera morbus, diarrhoeal diseases and the transmission of the eggs of intestinal and other parasites, because the germs of eggs of these diseases are present in the intestinal tract and presumably also in sewage contaminated water. Mr. Allen Hazen,^b one of the most distinguished experts on water purification in America, has conclusively shown that as the result of filtration plants in five cities supplied previously with an impure water, there was not only a reduction of 81 per cent in the deaths from typhoid fever, but also a marked reduction in the general

^aThe agency of flies in the transmission of typhoid fever germs was first pointed out by the writer in the Report of the Health Officer of the District of Columbia in 1895.

^bSee paper read at the International Engineers' Congress at St. Louis in 1904.

death rate. His computations clearly indicate that where one death from typhoid fever has been avoided by the use of a better water, a certain number of deaths, probably two or three from other causes, have been avoided. The truth of Hazen's theorem has recently been confirmed by Prof. Sedgwick. It is a difficult matter to explain how water is connected with the deaths other than those from water-borne diseases, yet when we consider that water enters into the composition of the human body to the extent of 60 per cent we are in a position to appreciate the sanitary acumen of Aristotle when he wrote in his *Politica*: "The greatest influence on health is exerted by those things which we most freely and frequently require for our existence, and this is especially true of water and air."

The importance of the subject is generally appreciated and the North American Conservation Conference on February 23, 1909, in the declaration of principles, adopted the following in reference to public health.

"Believing that the conservation movement tends strongly to develop national efficiency in the highest possible degree in our respective countries, we recognize that to accomplish such an object with success, the maintenance and improvement of public health is a first essential.

"In all steps for the utilization of natural resources considerations of public health should always be kept in view.

"Facts which cannot be questioned demonstrate that immediate action is necessary to prevent further pollution, mainly by sewage, of the lakes, rivers and streams throughout North America. Such pollution, aside from the enormous loss in fertilizing elements entailed thereby, is an immediate and continuous danger to public health, to the health of animals, and when caused by certain chemical agents, to agriculture. Therefore, we recommend that preventive legislation be enacted."

Having studied the effects of pure water supplies upon mortality rates let us next consider the influence of pure air, removal of dampness and of general sanitation upon tuberculosis.

The Influence of Sewers in the Prevalence of Tuberculosis.—The records of the Health Office of the City of Washington show that during the past thirty years 14.5 per cent of all the deaths occurring in the District of Columbia have been caused by pulmonary tuberculosis. The death rate, however, has gradually

and constantly fallen from 440 per 100,000 in 1880 to 210 in 1907. The death rate from this disease in New York City has fallen in like manner from 355.6 to 271. in the United States at large from 326.2 in 1880 to 183.6 in 1907, in England and Wales from 348.7 in 1850 to 172.2 in 1906, and in Massachusetts during the same period from 469.2 to 218.3. These reductions began long before the combat of the disease was a subject for popular education. The question naturally arises, if these reductions have resulted independent of any attempt to control the source of infections, what are the chief factors concerned in bringing about this gratifying result? In considering the question, I know of no sanitary reforms which could have exerted a greater influence upon our general well-being than the introduction of sewers, improved water supplies and the erection of sanitary homes. The marked reduction in the prevalence of consumption after the introduction of sewers observed in England over forty years ago, and also in the cities of Washington and New York and the country at large, may to a great extent be attributed to the prevention of air pollution and dampness. It is noteworthy that while the reduction in Washington coincident with the introduction of sewers amounts to 37.3 per cent the reduction in Baltimore, an unsewered city, is only 24. per cent. It has been estimated by Erismann that a cess-pool with 18 cm. contents is capable of polluting the atmosphere in the course of twenty-four hours with 18.79 cm. of impure gas, composed of carbonic acid, ammonia, sulphuretted and carburetted hydrogen and volatile fatty acids. In view of this fact it requires no great stretch of the imagination to calculate the amount of air pollution which resulted from the 30,000 cesspools and other makeshifts prior to the introduction of the sewerage system in the city of Washington. The influence of impure air upon our physical well-being and the powers of resistance cannot be under-rated. As a matter of fact, individuals who contract tuberculosis in cities often arrest the disease by removal to the country, showing that an abundance of pure air is a very important factor in the treatment of the disease, simply because it promotes oxygenation of the blood, stimulates the appetite and nutrition and thereby increases the general resisting power of the system. There can be no doubt as to the curative virtues of pure air, and hence we ought not to under-rate its preventive properties.

The importance of a dry, healthful building site was appreciated by Hippocrates, since he as well as Vitruvius, the father of architecture, referred in their writings to elevation as a desirable factor. One of the most striking illustrations of damp habitation as a predisposing cause to consumption has been recorded by Nowak, in the case of a prison in the vicinity of Vienna, containing on an average 200 inmates. Every convict is examined before his transport, and if found affected with incipient tuberculosis he is sent elsewhere. In spite of this precaution the deaths number about 50 per annum and the majority die from consumption. The prisoners are better fed in this institution than elsewhere, but the building rests on a wet soil, the walls reeking with moisture, and the rooms smell musty.

The relation of dampness to consumption may be explained as follows: Dampness of soil, unless special precautions have been taken, extends by capillary attraction to the walls and renders the entire house damp. Damp air abstracts an undue amount of animal heat, lowers the power of resistance of the inmates and predisposes to catarrhal affections, and these in turn render the mucous membranes vulnerable to the invasion of the tubercle bacilli. There is also reason for believing that the tubercle bacilli retain their vitality for a greater length of time in such an atmosphere on account of its humidity and excess of organic matter.

At all events it has long been known that tuberculosis is far more prevalent in damp, dark and insanitary houses. The children are anaemic and as puny as plants raised without the stimulating effects of sunlight. The death rate is often double and treble that of other localities. While there are doubtless other factors which determine the frightful mortality, none are more potent than dampness, deficient sunlight and poor ventilation. The tubercle bacillus clinging to floors and walls in carelessly expectorated sputum or droplets would be destroyed by a few hours exposure to sunlight, but finds in damp and dark basements, back-to-back houses, and yards and alley tenements suitable environments for its vitality and growth, and the other insanitary factors alluded to, together with the more intimate contact, materially increase the chances of infection.

If it should appear from the foregoing that the writer believes in the ubiquity of the tubercle bacillus and that the question of

environment should receive first and foremost consideration, he desires to be understood that he is convinced from the splendid labors of Professor Carl Fluegge that the tubercle bacillus is not ubiquitous and hence the task of stamping out the primary sources of infection is by no means a hopeless one.

He believes, however, that, until this is accomplished, in this disease as in other infectious diseases due attention should be given to all the causes likely to influence their spread, so that in our efforts to combat tuberculosis they may receive proper consideration.

We can scarcely do better than to conclude our review with the following quotation from the report of the Conservation Commission.

"Since the greatest of our national assets is the health and vigor of the American people, our efficiency must depend on national vitality even more than on the resources of the minerals, lands, forests and waters. The average length of human life in different countries varies from less than 25 to more than 50 years. This span of life is increasing wherever sanitary science and preventive medicine are applied. It may be greatly extended. Our annual mortality from tuberculosis is about 150,000. Stopping three-fourths of the loss of life from this cause and from typhoid and other prevalent diseases would increase our average length of life fifteen years. There are constantly about 3,000,000 persons seriously ill in the United States, of whom 500,000 are consumptives. More than half this illness is preventable. If we count the value of each life lost at only \$1,700, and reckon the average earning lost by illness at \$700 a year for grown men, we find that the economic gain from mitigation of preventable disease in the United States would exceed \$1,500,000,000 a year. This gain, or the lengthening and strengthening of life which it measures, can be had through medical investigation and practice, school and factory hygiene, restriction of labor by women and children, the education of the people in both public and private hygiene, and through improving the efficiency of our health service, municipal, state and national."

PAPERS AND DISCUSSION AT THE DENVER MEETINGS.

APPLICATION OF THE HOUSEHOLD ARTS AND SCIENCES TO THE ELEMENTARY SCHOOLS.^a

Unquestionably the school has drawn the interest of the child from the home, and consequently his sense of responsibility and relationship, developed through the daily cooperation in the family life, is lost.

How may this same agency, the school, be enabled to restore the importance of home and home duties?

One of the suggestions offered is that the school shall build a small dwelling house in the hall, or basement, or yard. A house of three rooms, 7x7 each,—kitchen, bed-room, dining and living room combined, is sufficiently large for the use of children eight to twelve years old. It may be built by the manual training class, in sections of one room each, or secured from one of the firms making portable houses at a cost of \$200 to \$300.

Equally important is the care of the home and its furnishings. The simply furnished house means less physical exertion but not necessarily less beauty.

Proper clothing and its care is essential to a child's healthy conditions. Habits of cleanliness, neatness and order must be developed in the early years.

It would not be quite practical in this little house to enter into the personal activities of bathing and dressing, so a very large doll approximating the size of the child may be used.

The food problem so fundamental to the welfare of the race must be presented to the child so that he will learn to desire the right kind of food and to have it clean.

"Right Living" goes further and demands, also, the right manner of serving and eating the food.

The home table should be the school of good manners and of good food habits.

If all the foregoing principles have been touched upon through the life in this little house, if the child has been led to see the joy of living through these home activities, she will feel that the real home is hers in which "to do" and will be ready to share its responsibilities.

^aA synopsis of an address by Ellen H. Richards, delivered before the department of Elementary Education, National Education Association, Denver, Colorado, 1909.

A DISCUSSION OF MRS. RICHARDS' ADDRESS.

In discussing the foregoing address Miss Ednah A. Rich, Principal of the State Normal School of Manual Arts and Home Economics, Santa Barbara, Calif., spoke as follows:

Mrs. Richard's paper is so comprehensive that one hesitates to take away, by discussion, the impression made by the charming word pictures she has given us.

All that the paper has suggested lies within the range of possibility, and those who are now in training are being prepared to present their so called regular school subjects in relation one to another. Not being "special" teachers, in the common acceptance of that term, you may be appalled at the suggestion that you must take onto yourself additional responsibilities with your already crowded curriculum, but in reality Mrs. Richards is not giving you more work, she is making the way clear for better work.

Accepting Mrs. Richard's statement that "unquestionably the school has drawn the interest of the child from the home, with the consequent loss of his sense of the responsibility and relationship developed through the daily co-operation in the family life," can we not, as teachers, try to shift some of the blame for the present conditions to other causes? In cities, the modern apartment, the convenient cottage, with their labor-saving appliances, the crowded tenement with its small rooms, have been planned with no thought of children's activities. In towns, where there are few class distinctions, life is normal and the home and the school are one; in rural districts, where the possibilities are greater, life often goes on in a routine, with standards based on traditions, not growth.

Bakeries, markets with fresh products from every section of the country, the increased production of prepared foods—biscuits, cereals, soups, meats and fruits—all tend to eliminate housework. Ready-made clothing and every "notion" one desires for the house are displayed in the department store to tempt the housewife. Laundries take away another so-called burden, and again the child's development is left out of the home plan. Yet the home must continue to be the greatest factor in the community.

Parents almost without exception have a conviction that children should have an education. They sometimes have

no clear idea of the plan, but Mrs. Richards is right when she says that the result must be "efficiency," and to that quality I would add "service."

Admitting that the school has the power to revive the interest, I am not quite willing to admit that the interest of parents and children in the importance of home duties is really lost. Mrs. Richards has given you a key.

Children care very little for the finished product, it is the process that interests them—the construction. Their reading, geography, mathematics, drawing, manual training, sewing, cooking, can all be so thoroughly a part of the plan that the school and home are one. Neighborhood houses, playgrounds, visiting nurses, various associations for the uplift of the unfortunate, take from you the burden of obligation to any but normal children, and surely you can do your part even though you have not had the special training which tends to broaden your sympathies.

The upper grammar grades and secondary schools are provided for, but it is your privilege to deal with children at the formative period, and here the play sense is your guide and aid. Bringing children into contact with the real things in life must not dull the edge of the play spirit, because drudgery is the result, and that factor must be eliminated if we would have true happiness.

Take the story of the house—consider grades below the sixth. Suppose you have no manual training in your schools in those grades. Find an unused corner in your schoolroom, hall or recitation room. You will need the janitor's saw, square and hammer, and maybe his co-operation. With boxes from the grocery or dry goods store, the remnant counter for inexpensive materials, quiet in tone, you have your furniture. Burlap screens are as good as walls and may be adapted to many uses. The house may be used by several classes if the teachers will work out their plans together.

Mrs. Richards has told you what to do and how to do it, and it is for you to adapt your plan to the ideal she has presented to you. If you are in earnest you will find help on every side, school gardens will contribute and mothers' clubs will give you the wherewithal to purchase necessities. Shall all the children be given this work? Yes, but in varying degree. The child from the good home, through his willingness and ability as an

example to others, is helped by the school which serves to strengthen the home lessons, while the result of the help for the untrained child is obvious.

It is work for a purpose, and self-activity counts for the best development of the child.

You may not be able to carry out any of these suggestions immediately, but the thought that you are in a sense, from the very nature of your calling, responsible for the child's growth along right lines, will help strengthen your own understanding of the whole value of right living.

BUSINESS EDUCATION FOR GIRLS.^a

The business education a girl needs depends upon the business and the girl. We will not enter any controversy as to comparison of ability. When the girl enters the field we mere males will climb the fence and give her the whole pasture. Many of the girls are so much brighter than their brothers that the latter get lost in the woods. We are ready to concede all this and anything else the girls demand, for some of us have learned by experience the futility of argument with those to whom the rules of logic are of infinitely less importance than those of Butterick or May Manton.

Having cleared the decks let us see whether we can get back to first principles. The state and the nation are built on the home, and can be no better than the materials which that furnishes. Good homes make good citizens. Deterioration and ultimate disintegration must result from the inferior citizenship produced in bad homes.

There is only one person in the world who can make a good home. That is a good woman who becomes the wife and mother. She may be capable of becoming a good lawyer, physician, minister, stenographer, bookkeeper, teacher, or business manager, but men can do all these things very satisfactorily and successfully. This one thing she alone can do, and to this one thing all her instincts tend. If, then, we are to have good citizens, good laws, good government and a future worthy of our past, our girls must have the kind of education, first of all, which will prepare them to be good wives and mothers.

^aAn address by S. R. Hoover, Vice-principal of the High School of Commerce, Cleveland, O., before the American Home Economics Association, Denver, Col., July 7, 1909.

The great probability being that the girl's business will be attempting to make a home, let us place first on the list of her studies Domestic Science. Teach her how to cook—not blanc mange and fruit cake—but the essential foods. Since she must “feed the brute” to retain his affection, she will find it much more permanently bound by good bread and well roasted beef than by angel food and floating islands.

Teach her to make, not point lace and embroidered pillows, but aprons, dresses, and children's garments. Add the fundamentals of health and hygiene, especially for young children. The great mortality of the human race is in the slaughter of the innocents, a large part of which is due directly to the ignorance of mothers. A sufficient knowledge of accounts to make her accurate and to develop system and economy will add in large measure to her office of helpmate—perhaps enough to insure the ownership by and by of a patch of ground and a cottage. These things may be much more attractive and the home may become the most pleasant place in the world, as it should be, by the addition of Domestic Art to Domestic Science. These things the girl should know, whatever course of study she takes, and whatever school she enters.

If there remain more time, literature and other humanities will add to her efficiency in her circle and to her pleasure in her associations. To the dyspeptic croaker, whether in trousers or petticoats, who will shake in malarial impotence of rage over this picture of slavery to the kitchen a sentence is due. It may be that some unusual exigency in domestic affairs or some abnormal weakness toward the fascination of commercial activity will drive the girl to the office, the shop, or the factory. But he who fosters the inclination of the girls toward these pursuits to the disfavor of home making and home keeping is stifling the call of nature to her dearest children, in robbing them of the crowns which would make them queens and giving in return only cheap tinsel, for when they marry, as the great majority will, the whole bottom of health, happiness, and morals will fall out of the home if they have not been prepared for their responsibilities as wives and mothers.

INFLUENCE OF INDUSTRIAL ARTS AND SCIENCE UPON
RURAL AND CITY HOME LIFE.^a

The new order of things has come, but women, so far, have not been given the means with which to utilize it.

To whom shall we turn for experience and knowledge? To the men in the Industrial world.

The management of American industries, the methods of the American business world stand at the very front, brought there by using the lessons of experience to form a definite science of business methods.

The home cannot be maintained without labor—how much labor depends upon the perfection of the machinery. Given this machinery, woman's greater flexibility of thought and adaptability of manipulation will be utilized. She must feel the sense of power over things.

The girl needs as much manual training as the boy; the means may be different, but the goal is the same, "to train workmen to do better work." For the well-being of her family, she should be taught to know the machinery of the home and how to care for it, as well as the boy who is to be trained as an engineer or for some industrial enterprise is taught to know his plant.

There must be another workshop added to your group. What shall it be—a station for the application of the industrial arts and sciences to the home? In the study of electricity, I wish we had a room in one of our educational institutions as well equipped with household appliances as is the salesroom of a modern electric light company.

Again, we are turning to the outside industries for the development of manual training and we must utilize this same tendency if we mean to cultivate woman's efficiency in her traditional department that she may continue to control it.

The time is ripe for the movement.

The family, the house, its furnishings, its management, its daily care, its needs in mechanical appliances, its ethical standards, and the share of the income it needs to carry it on successfully under *twentieth century conditions*, must be determined and we must fully realize the bearing of mechanical and economic changes upon the material surroundings of the home life. This preparation cannot be too closely interwoven with all school work.

^aA synopsis of an address by Mrs. Ellen H. Richards, before the Department of Manual Training, National Education Association, Denver, Colo., 1909.

COST OF LIVING OF THE WORKING CLASSES IN EUROPE.^a

There are reported in the publication under consideration the results of an extended study undertaken by the Board of Trade of Great Britain of the working class rents, housing, retail prices and standard rates of wages prevailing in a number of occupations in the principal industrial towns the monographs dealing respectively with conditions in the United Kingdom, Germany and France.

In the report dealing with the United Kingdom, detailed reports from 94 towns and summaries of the data are given, together with information in appendixes regarding the percentage of the population in each town living in different kinds of tenements and in overcrowded tenements, the weekly time rates and wages of skilled men in different trades, and similar topics.

Out of a total of 1,944 families, 261 reported a weekly income under \$6.25; 596 of over \$10; and 416 of \$7.50 to \$8.75. The proportion of income spent on food diminished as the income increased, two-thirds of the total expenditure being for food where the incomes were less than \$7.50, and about 75 per cent in the case of incomes of \$10 and over a week.

"The amount spent on bread and flour together does not show much variation in the different ranges of income, except in the cases of incomes above \$10 where the family income is augmented to a greater extent than in the other groups by the earnings of children and in which the children included are older.

"In the case of incomes below \$6.25 the expenditure on bread and flour forms about 21 per cent of the total spent on food; for incomes between \$8.75 and \$10 the proportion is 15 per cent. The quantity of bread and flour purchased varies from 28½ to 37¾ lbs. per week, the average being 32 lbs.

"The average expenditure on meat and fish of all kinds is seen from the table to be \$1.59½ per week. . . .

"If we turn to other articles of consumption we find that fresh milk accounts for 16 cts. a week in the families with incomes below \$6.25, but the expenditure on fresh milk rises rapidly with the income. The average expenditure for all families is 31½ cents. . . .

^aA. W. Fox, London: Govt. Cost of Living of the Working Classes [in the United Kingdom,] 1908, pp. LIII+616, maps 2; Cost of Living in German Towns, 1908, pp. LXI+558, map 1; Cost of Living in French Towns, 1909, pp. LIV+430.

"Oatmeal is consumed largely by the Scotch working classes, but hardly at all in England, whilst on the other hand foreign and colonial meat, a common article of food in England, is much less used in most parts of Scotland. . . .

"Rice, tapioca, and oatmeal account for an expenditure of from 9 cts. to 14 cts. a week, a considerable portion of this amount being accounted for by the expenditure on oatmeal in Scotland, which amounts on an average to 16½ cts. per week."

Some statistics are also given for other food groups.

Housing conditions and other similar topics are discussed at length.

"As a basis of comparison the levels of rent, prices, and rates of wages in the Middle Zone of London were taken as standards, and index numbers have been calculated for each of these items in every town, so as to afford an indication of the relative levels of the towns, in relation both to London and to each other. For Scotland and Ireland supplementary standards were obtained by the adoption of Edinburgh and Dublin respectively as bases, so that for the towns of each of those two countries a two-fold comparison has been made—one with Edinburgh or Dublin, and one with London."

Attention is especially directed to the "remarkably high level of rents which prevails in London as compared with the rest of the country. In Scotland the rents in the capital are only slightly higher than those in the other towns; but in Ireland, Dublin shows a markedly higher level than the rest of the country. If we exclude London, the variation of rents in England and Wales is not very great, and prices are on the whole singularly uniform, with the result that for equal accommodation and equal provision of food and fuel the necessary expenditure would not differ very much from one town to another.

"Another fact is that the tenements of 4 or 5 rooms (i. e., self-contained two-storied dwellings, possessing 4 or 5 rooms and a separate scullery) are by far the most predominant types of housing accommodation in England and Wales, and may be taken as the typical dwellings of the English working class. Finally, it may be noted that the comparison made in the present investigations between the relative levels of wages, rents and the retail prices of commodities in different industrial centers does not disclose a sufficiently close connection between the local varia-

tions of wages and cost of living to justify any general conclusion beyond the well-established fact that both factors are higher in London than in other parts of the United Kingdom. Further light, however, may be thrown on this question when the inquiry now in progress as to the earnings of the working classes is completed."

The report dealing with German conditions includes investigations made in 33 of the industrial towns of the German Empire. It contains an introduction by H. L. Smith, a summary by the author, detailed reports and appendixes with data regarding wages and hours of labor, weekly rents, housing and lodging house regulations, regulations regarding the inspection and sale of food, and similar topics.

As regards the total expenditures for foods of different kinds, the budgets show that the total weekly expenditure on meats of all kinds, including bacon, fish, etc., was from 97 cts. in the lowest income class, to \$2.24 in the case of family incomes above \$10 per week. The average weekly income was from under \$5 to over \$10, ranging in the greatest number of families from \$6.25 to \$8.75.

"Between the United Kingdom and Germany the differences in some respects are very marked. The prevalent type of working-class housing in England and Wales, and to a lesser degree in Ireland, is a self-contained two-storied dwelling, possessing generally 4 or 5 rooms and a separate scullery; in Germany the predominant type is a flat of 2 or 3 rooms with appurtenances, in a large tenement house. The German housing system thus approximates more closely to the Scottish type—blocks of flats of 2, 3, or 4 stories—than to the English. English, but not Scotch, rents of working-class dwellings usually include local taxation, which is based on the rentable value of the dwelling; in Germany local taxation is levied on an entirely different basis, and is not included in rent. In regard to food the British workman's meat consists mainly of beef and mutton, whilst pork (even including bacon) is relatively small in amount; the German workman on the other hand, eats chiefly pork (including sausage) and beef, and only a very little mutton. The pure wheat bread eaten by the working-classes of the United Kingdom is replaced in Germany either by pure rye bread, or more commonly by some mixture of rye and wheat. . . .

"It may be pointed out that there is little if any difference between the general levels of rent in Germany and England, though rents in England include a considerable element of local taxation, whilst rents in Germany do not; and that rents in Berlin exceed those of all the other German towns investigated (except Stuttgart) to practically the same extent as rents in London exceed those which prevail in other towns of the United Kingdom.

"Further the range of town prices levels in Germany, as in the United Kingdom, is not very great, though somewhat wider in the case of the German towns, with the result that the difference, between the cost of living (so far as it relates to expenditure on rent, food, and fuel) in one or another of the German towns investigated are not very much larger than those which exist between the towns of the United Kingdom. The general level of prices is, however, distinctly higher in Germany than in the United Kingdom, and in this connection an important instance of the effects of differences in national habits may be noticed. The English workman going to Germany and maintaining his accustomed standard of living would find his expenditure on food and fuel substantially increased; but in spite of the generally higher level of prices in Germany the German workman coming to England, and maintaining his own standard, would not find his expenditure reduced in a corresponding proportion. This is due mainly to the fact that the German workman takes much more than the English workman of certain food commodities, chiefly potatoes and milk, which are cheaper in German than in English towns.

"Finally, whilst nominal rents are as high in Germany as in England—and in fact higher, since they do not include local taxation, which the German workman must pay separately—and whilst the general level of food prices in the German towns is also higher than in England, wages in those trades for which a comparison has been made are substantially lower, even when longer hours are worked."

Similar data are reported for the principal industrial towns of France in the third volume. Here also there are detailed reports for the different towns, and summaries of data on municipal regulations and legal enactments regarding food and lodging, specimen factory rules, and similar subjects.

"The main subjects of investigation were the principal types of housing for the industrial population, the customary standards of accommodation and the rents commonly paid by working-class tenants; the kinds of food usually consumed by working-class families and the prices most generally paid; and wages and hours of labor in the principal occupations in each town. In order to arrive at some estimate of the standard of living prevalent among the French industrial classes, over 5,600 budgets showing the expenditure on food by working-class families in a normal week, and representative of numerous occupations and of all grades of working-class incomes, were obtained from the various towns and are analyzed in the present volume. . . .

"In regard to food, the meat dietary of the French working-class family shows a much greater variety than that of either the English or German family of the same class; horseflesh appears to be more largely consumed (chiefly for reasons of taste) in France than in Germany, whilst poultry is much more conspicuous in the food bill of the French than of the English family. The French workman like the English, eats pure wheaten bread; the bread made of rye, or of rye mixed in various proportions with wheat, so popular in Germany, are little known in France. Vegetables play a much more important part in the dietary of the French than of the English working-classes; when allowance is made for the smaller size of families, the consumption of milk is only slightly higher, whilst that of sugar is on the other hand, decidedly less."

**The Care of
Food in the
Home.**

"We are paying higher prices for the staples of life nowadays—milk, butter, meats, due in part to the extra cost of producing the same in a sanitary manner. The rise of the standard of producing food has forced the producer to increase the price of food; and is it not the part of the consumer to make this extra cost worth while? Should not the consumer as well as the producer take pains to keep milk, cream, meats and other foods clean, pure, free from bacteria, and fit for eating? Instead of the common practice of leaving milk on the kitchen table some time after delivery exposed to heat and dust, it should be promptly and carefully put away under cover and in a cool place." F. W. SHUMWAY, *Hygiene and the Housewife, Dietet. and Hyg. Gaz.*, 25 (1909), No. 4, p. 241.

A NEW METHOD OF HOUSEKEEPING: THE FICK APARTMENT HOUSE OF COPENHAGEN.^a

An attempt to reform the state of affairs whereby the mother is expected to be, as Charlotte Perkins Gilman says, an embryo combination of cook, nurse, laundress, chambermaid, waitress, governess, and housekeeper—Jack of all trades and master of none—has been made by Otto Fick, who established an apartment house of a novel type in Copenhagen in 1904. The apartments—twenty-five in number and containing from three to five rooms each—are rented unfurnished, so that each family can furnish its home in accordance with its own tastes and requirements. Each apartment has a kitchenette with a gas stove and a bathroom, supplied with hot water day and night. Electric light and central steam heating are included in the equipment, and each apartment is connected by telephone with the general kitchen, and also with the public telephone system. Meals are prepared in the general kitchen and sent up to each apartment by means of an electric dumb-waiter.

Privacy is as complete as in an apartment house of the usual type. The only commercial feature is the centralization and specialization of every task of housekeeping—cleaning, ventilation, lighting, heating and, preparation of food—so that the tenants are entirely relieved of the burdens of marketing, making fires, cooking, serving, dishwashing, etc.

Luncheon is served in the apartments from ten to twelve, and neatly packed luncheons are provided for school children and others who desire them. Dinner is served in the afternoon, according to Copenhagen custom, and tea until ten in the evening.

The menu is so extensive and varied that monotony can be easily avoided, and the general kitchen has a list of the preferences, and particularly of the aversions, of every family, in which it is gravely set down that one family is never to be served with mushrooms, a second with cabbage, a third with rice pudding, etc. Individual, as well as family preferences are respected.

Dishes, plates, cups, etc., of the so-called "unbreakable" ware are furnished by the management, but each family may provide its own tableware and have it washed in the general kitchen,

^aA portion of a translation from *Umschau* by Scientific American Sup., 67 (1909), No. 1745, p. 375.

without, however, any guarantee against breakage. Laundry work, extra service and meals for occasional guests are furnished at low rates.

Cheapness, indeed, is the guiding principle, and cheapness combined with excellence is attainable only with the aid of centralized housekeeping. The kitchens and other service rooms in the basement are equipped with the most approved apparatus, and the food and other supplies are abundant and of the best quality.

The annual charges for rent, heat, light, baths, food, and service, including pneumatic "sweeping," window cleaning, and even shoe polishing, range from \$420 for two adults occupying a three-room apartment, to \$930 for four adults occupying a five-room apartment.

Small additional charges are made for children and servants.

This first centralized apartment house has proved so successful that others are projected. Fick also purposes to erect a house with large general playrooms for school children and for small children. Nurses will also be provided so that mothers who have occupations away from home will be able to leave their little ones in safe keeping.

Among the advantages claimed for the Fick system is that it settles the servant question to the advantage of both employer and employed. Much of the work of the centralized household is performed by machines and the rest is skilled labor with definite hours of work. When housekeeping is thus raised to the rank of a specialized industry it will attract workers of a more intelligent class who now very justifiably refuse to work sixteen or eighteen hours a day.

Again under the present system a house is attainable by an unmarried man or woman, yet the cost and burden of housekeeping act as preventives of marriage. The system is very elastic and allows of apartments of two rooms, or even one room, and of general dining rooms, reading rooms, etc.

Finally, the lifting of the burden of housework makes possible a reform in child culture.

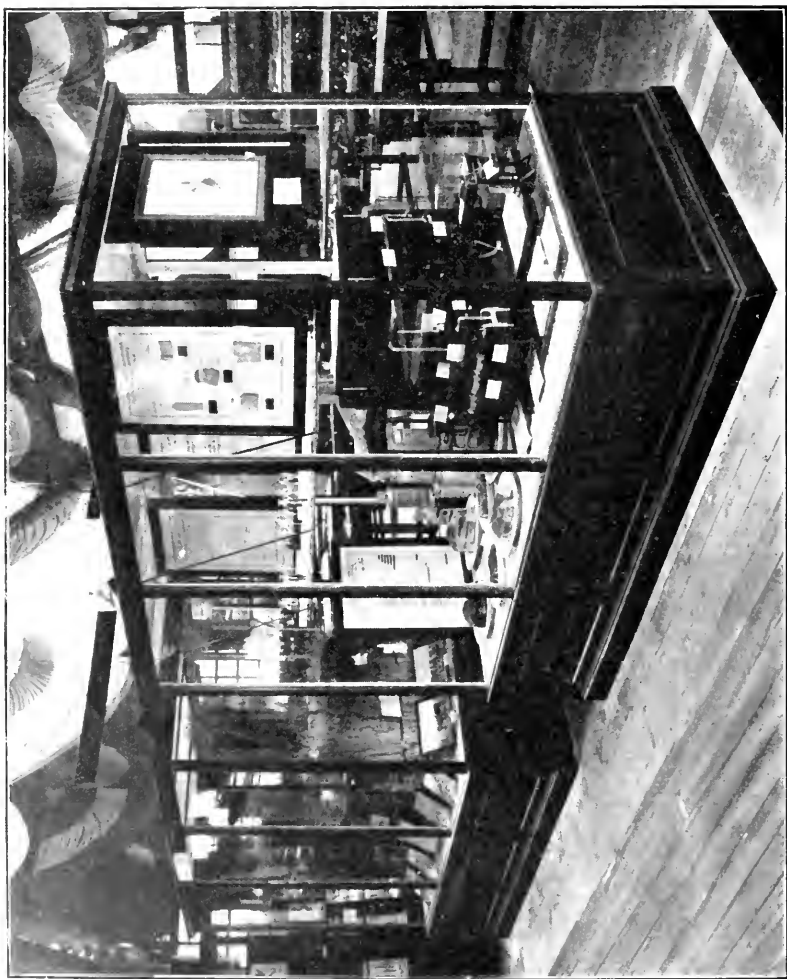


EXHIBIT AT THE ALASKA-YUKON-PACIFIC EXPOSITION OF THE NUTRITION INVESTIGATIONS OF THE OFFICE OF EXPERIMENT STATIONS, U. S. DEPARTMENT OF AGRICULTURE. (See p. 449).

HOME ECONOMICS AT THE ALASKA-YUKON PACIFIC EXPOSITION.

Although there was no central exhibit of Home Economics work at the Alaska-Yukon Pacific Exposition, various phases received considerable attention. The following article presents a brief description of the illustrative material shown by the Office of Experiment Stations of the United States Department of Agriculture in connection with its Nutrition Investigations, and comments by Mrs. E. H. Richards on the work shown by educational institutions in Domestic Science and Domestic Art.

Nutrition Exhibit of the Office of Experiment Stations.—The work of the Office of Experiment Stations and other Bureaus of the Department of Agriculture was represented by exhibits in the Government Building. The accompanying illustration shows the exhibit illustrating the investigations in human nutrition which was installed in one of the large pavilion cases. A prominent feature of this exhibit was a model of the respiration calorimeter as it was installed at Middletown, Conn., built to a scale one-fourth the actual size of the apparatus. The model was so arranged as to show the construction and operation of the calorimeter, while the numerous labels explained the purpose of the different parts and the way in which the apparatus is employed for studying the use which the body makes of food by determining the balance of income and outgo of matter and energy.

The composition of the human body was illustrated by a series of jars containing the quantities of water, protein, fat, and carbohydrates in the body of a man weighing 154 pounds. The same method was used for showing concretely the comparative composition of bread, meat, milk, eggs, potatoes, and apples. In addition, the fuel value of these foods was shown by means of bottles containing definite quantities of coal.

Studies of the relative losses sustained when meat of different sorts is cooked in a variety of ways have been an important feature of the Nutrition Investigations of the Office of Experiment Stations. This work was illustrated by wax models of raw beef and the same cut when boiled, broiled, and roasted. The relative amount of material removed by each method of cookery was

shown by a series of bottles containing the proper proportions of water, protein, and fat.

A portrait of Professor Atwater, who instituted the Nutrition Investigations, was also shown in this case, together with thirteen framed charts which depicted by means of colored diagrams the composition of the more important food materials. These charts were drawn and colored particularly for this exhibit and have not been published for distribution.

The exhibit also directed attention to the bulletins and other publications which have been issued in connection with the Nutrition Investigations.

Work in Domestic Science and Domestic Art.—The progress in territory covered and number of schools giving work under this head could be well studied in the exhibits.

Although it was not practicable to send the Mary Lowell Stone Home Economics exhibit, the ideas for which it stood were to a degree carried out in the exhibits of the work of the Oregon Agricultural College, where house plans and schemes for house decoration were shown. The exhibit of Domestic Art in the way of clothing showed restraint in design and good quality in material. The secondary courses in this school take girls from the eighth grade. They include plain cooking, simple dietetics, laundry methods, observational work on the home and its surroundings, plain sewing, dresses and millinery.

The degree courses take girls of sixteen years old who have had two years of high school work, and embrace advanced and special cookery, marketing, etc., bacteriology and normal methods, basketry and weaving, advanced sewing and millinery.

The institution is thus doing about what the technical high schools of the large centers are now aiming to accomplish and what more and more of the most up-to-date high schools are going to do in the near future.

The State College of Washington, located at Pullman, had a full exhibit. The object of the Department of Domestic Economy, of which Miss Lucy Gertrude MacKay is acting head, with Miss Frances McKay, instructor in Domestic Art, and Miss Leila Wall Hunt, instructor in Domestic Economy, is two-fold: To train young women in what pertains to the management and care of the home and to prepare teachers in these subjects. Instruction is given in the fundamental principles and the

practice of Domestic Economy, including the study of foods and cookery, the study of textile fabrics and the making of clothing, and of the arts and sciences that have a direct bearing upon these matters. An illustration of the new Domestic Economy Building of this college constitutes the frontispiece of this number of the JOURNAL.

All through the buildings exhibits of sewing, embroidery, basketry, etc., were to be found and some of the public schools showed good hand work, but there was little evidence of a sound science basis back of it all, and almost no example of good selection as to material and form of making up in the sewing. It was mostly after the prevailing "style."

There was one ingenious illustration of how limited space and resources can be economically used rather than to omit the instruction altogether. This Mr. Johnson showed in the King County Building, the room of the Denny School used in common by the boys for manual training and the girls for cooking. The same bench serves for both classes at different hours. The benches are varnished and smooth. The girls have the top drawer opening on the back of the desk, the boys the bottom drawer for tools. The vise holder comes up on the right side, the gas pipe and stop cock to which a rubber hose may be attached, on the left. The girls have a cooking board which they place on the top and when they are through it is cleaned and set away as are drawing boards.

There are some twenty cooking centers in Seattle and three or more high schools which give work alternating with sewing and designing. All material is furnished by the city. Sewing in the seventh grade consists in making caps and aprons for later use.

EDITORIALS.

The December Meeting.

We wish to call to the special attention of our readers the full program on another page of the Second Annual Meeting of the American Home Economics Association to be held in Boston on December 31 and January 1, next, in connection with the meeting of the American Association for the Advancement of Science. The opportunity to hear the speakers mentioned will not form the only inducement for attendance; perhaps of still greater value will be the informal meetings between those having mutual interests. The sessions will be especially valuable to teachers.

Address List of Members

In the February number of this JOURNAL will be printed a revised list of the names and addresses of the members of the Association. Any changes of address must be sent to the secretary, Mr. Benjamin R. Andrews, 525 W. 120th St., New York City, before December 20th.

The Housewife and this Journal.

A member of the school board in a country town was wont to say to all proposals for a trial of new methods, "It's against my experience, you can't beat a man out of his experience." Delivered impressively by a man of portly habit that was a "poser," but the nimbler wits of youth prompted the reflection that although his experience might have touched the educational systems of the five continents yet its whole value lay in the conclusions he was able to draw from it. Now this interpretation of our experience depends on two things: First, on our innate ability, whether it is poor, average or first class; and second on whether our observations in any given field have been haphazard or have been directed along the lines of what is called by the scientist "the experiment." That is, a problem is clearly recognized and stated, facts bearing upon it are gathered, tested for their truth and recorded in order; conclusions are then carefully drawn and used as a basis for further enquiry. Exactly these processes, used perhaps unconsciously, are applied by an acute and orderly mind to the conduct of life and the result is what we call a person of sound

judgment. But in a definite occupation or business the mental process must be aided by the written record, the well-thought out plan, the ordered arrangement of materials. The country tanner of two generations ago put his full trust in his inherited methods of managing his one vat and he chalked his accounts on the door; his son opened a set of books and began to look into the methods of rival tanners. His successor of today has at his command experts at the head of every department and a well appointed laboratory where the results of modern science are applied to the improvement and cheapening of his products.

Now the experience of the middle-aged housekeeper has seldom been governed by the limitations of "the experiment." Such knowledge as she has is in reality a by-product of a vast number of unrecorded and half observed events. For the more exact and vastly more economical gathering of knowledge, by methods known to the laboratory, the housewife lacks the training, and the outfit, especially the instruments of precision. Above all, she presides not over a laboratory, products of which are considered of no value except for teaching purposes, but over a factory the output of which—good food, clean and attractive rooms, suitable clothing and all the rest,—must not fail. By any methods known to her, usually those she has inherited, she must bring some semblance of these results to pass, and that daily.

"Can you partially cook your jelly one day and finish it the next"? asked a young housekeeper of an older one, "it would sometimes be so convenient."

"I did not dare try it" was the reply, "I never had time to use any but the way I knew."

"Does it pay to sift your ashes?" was the next question. "Well, I've thought I'd weigh the cinders and compare with the coal. But I've no large scales and then there's the time. I hardly think it would pay to hire it done, and yet I'm not sure."

These and a hundred other practical questions that arise daily in any household are not to be answered by the editor of the "Woman's Page." Any one of them may be enough to engage the attention of a laboratory worker for months before the authoritative answer can be given. No doubt there were people fifty years ago to say, "Why an agricultural experiment station? Every farm should be one." But it was found that the farmer with his planting, his mowing, and his reaping, his

stock feeding and his fence mending, had little time to experiment on silos and cross fertilization, even had he possessed the necessary training and facilities.

In the same way all that relates to home hygiene and household methods affords a wealth of material that needs careful study by trained people having proper equipment in order that existing knowledge in the fields of chemical, physical, and biological science may be applied to these special problems. Much work is available to those who know the results of studies in the technical institutes of Europe. The like is being done to some extent in our 40 agricultural colleges, the U. S. Department of Agriculture and in such special institutions as the Lewis and Armour Institutes, Teachers College and the Pratt and Drexel Institutes. Original work, even, is being done by the graduating classes in Home Economics, in state and other institutions, and it is the aim of this JOURNAL to publish these theses so far as may be. It has already furnished articles of this kind and in our present number we publish three important studies of practical subjects.

We have also in hand studies, similar to those mentioned, on a comparison of various cooking utensils and another on the adulteration of silk fiber.

Every intelligent housekeeper should recognize that work of this order, although accumulated but slowly, rests on firm foundations, and that the results help to provide definite answers to the questions which interest her.

Incidentally it may be mentioned that the need of scientific studies made under known conditions is well illustrated by two of these very studies. Both represent serious and painstaking effort to obtain information on the same general problems; yet at first glance the results obtained differ in some respects. More careful examination of the data, however, reveals as the cause of the apparent differences local variations, such as the price of fuel. Since in each case these have been recorded, their influence may be judged, and erroneous conclusions thereby be avoided.

AMERICAN HOME ECONOMICS ASSOCIATION.

Provisional Program of Second Annual Meeting, Boston.

Thursday, December 30, 1909.

Meeting of Executive Committee, 9:30 a. m., Hotel Westminster.

Meeting of Council, 2:30 p. m., Mass. Inst. Tech.

Informal dinner of Council, Thursday evening.

Friday, December 31, 1909.

General meeting of Association, 9:30 a. m., Simmons College.

Topic: The Sciences in Relation to Home Economics Courses.

Among these are: Architecture, Biology, Chemistry, Economics, Physics (Heat, Light), Physiology and Psychology.

Subscription luncheon, 1:00 p. m., Hotel Westminster.

Roll call. Reports from the field.

Section meetings: 3:00 p. m., Simmons College. Adjourned meetings in the evening.

Hospital dietetics, High School Courses, Grade work (methods of teaching), Settlement work (methods of teaching), Open-air schools, Utilization of Cooked Foods in Lunches, Trade and Vocational Teaching, are among the topics to be discussed.

Saturday January 1, 1910.

General Session, 10:00 a. m., Simmons College. †

Topics: (1) The Outlook: President's Address; (2) Plans of the Executive Committee, by the Secretary; (3) Plans for the *Journal*, by the new editors.

Election of Officers and Reports of Committees.

Meeting of the New Council, 2:30 p. m.

Excursions to places of interest.

Note—This program may be modified to permit of attendance on meetings of interest at the American Association for the Advancement of Science and its affiliated societies.

Hotel headquarters: The Westminster, Trinity Place, Boston.

Other hotels near are the Copley Square, the Lenox, and the Nottingham. The Local Committee will have a register of other boarding places. No special railroad rates will be provided, but reduced rates may be secured by membership in the American Association for the Advancement of Science. Association membership fee \$3.00.

Members desiring further information, final program, etc., should apply to its Secretary Miss Isabel F. Hyams, 26 Wales Street, Dorchester, Mass., or to Mrs. E. H. Richards.

NEWS FROM INSTITUTIONS.

Colorado State Agricultural College.

Miss Mary F. Rausch, head of the Department of Domestic Science, writes that a school of agriculture was opened on October 5. "This includes both agriculture and Domestic Science courses and fits the students for home and farm life. There is an enrollment of 155 students, of whom 52 are young women. In order to enter this course, students must have passed the 8th grade work, and we have many students this year who have had one, two or three years of high school work. The work is given for three years, from October to April of each year.

"In our regular college work we have 24 girls. The majority of the girls are preparing for teachers, and are taking the four year course which leads to a degree of Bachelor of Science.

"With the assistance of Miss Allison, instructor in Home Economics in this department, I am now working on a bulletin on high altitude cookery.

"The college is in co-operation with other colleges in working with the Beef Producers' Association of the United States. We are trying to educate the women in the use of the cheaper cuts of meat, their selection, cooking and serving.

"There are 86 young women enrolled in the college, and 76 are taking Home Economics work. The Home Economic Club was organized last week with an enrollment of 24. The School of Agriculture Domestic Science Club was also organized with an enrollment of 52.

"The college is working in co-operation with the women's clubs of the state, and we are trying to introduce Domestic Science into the public schools. This year several of the public schools have started the work.

"The annual meeting of the Colorado State Federation of Women's Clubs was held in Leadville, Colorado in September. We have asked each club in the State to devote at least one afternoon during the year to some phase of Home Economics work.

"We have one woman 40 years of age and one over 50, who are taking the work in our department."

University of Illinois.

The Household Science Department announces that through the co-operation of Professor Kinley of the Department of Economics and Dean of the Graduate School, and Dean Greene, of the College of Literature and Arts, a course in household administration will be offered during the coming year. The aim of the course is to provide an opportunity for a serious study of the problems of home and family life with the emphasis on economics.

University of Vermont.

A Department of Home Economics has been established under very auspicious conditions. The alumnae of the university are raising \$1,000 for equipment, \$700 of which has been applied to furnishing laboratory and lecture rooms in Morrill Hall.

Miss Bertha M. Tirrell, formerly of the Hartford School of Religious Pedagogy has been chosen to carry on the work. Courses were given during the Summer Session, July 12-August 7, and four elective courses are offered for seniors the present year, which have been generously elected. Courses for juniors and seniors and a special course of 2 years have been planned with chemistry, bacteriology and advanced physiology as pre-requisites which a large number of undergraduate students are preparing to take. An extensive course of lectures has been offered in response to a request of the teachers of the city and thirty-five have responded.

The work has been introduced into the university with the enthusiastic support of faculty and alumnae and there is promise of a large department in the near future. Miss Tirrell's influence is also to be felt outside the university walls. She has a class of 24 high school seniors twice a week studying shelter, to be followed by courses on clothing and food, and she is to speak before the State Horticultural Society and the State Dairyman's Association.

University of Wisconsin.

Over 100 have enrolled in the department of Home Economics of the College of Agriculture, of whom 34 are in the long, or four-year course, and about 45 in the general survey and art and design courses which are open to election by students in the College of Let-

ters and Science, and designed for those who desire a general knowledge of the subject of Home Economics.

The general survey course is given by Prof. Abby L. Marlatt, in charge of the department, assisted by Miss Alice Loomis. The course in art and design, given by Miss Leona Hope, takes up the study of the fundamental principles of design as applied to problems in household decoration. Many of the students enrolled in this course have had previous training in Home Economics.

To quote from a letter from Miss Marlatt: "While there are thirty-two electives to be chosen from any of the courses offered by the colleges in the University and the intention is to give each student an opportunity to choose that which may best develop her peculiar talents yet the choice of elections which are advised are chemistry, biology, economics, sociology, psychology, and education. The special and graduate students are doing this, as they all desire to enter the teaching profession.

"We have one fellowship worker, whose thesis work is to be done in bacteriology and home economics.

"We are in the Agricultural College building now, but hope to be located in a few months in our new laboratories in Lathrop Hall."

University of Wyoming.

A special train, "The Ranchman's Special," was sent out by the university, October 17 over the State, on which the Home Economics work was represented by Professor Minna N. Stoner, of the Department of Domestic Science.

The train contained a full exhibit of illustrative material pertaining to Domestic Science work, and this attracted a great deal of attention, much of it from ranchmen, business and professional men. The economic

value of the fireless cooker and the advantage of ventilation in cooking in certain utensils were points especially emphasized. Over 1,500 copies of State and U. S. Department of Agriculture bulletins on foods and related topics were distributed on the trip.

Yale University. The laboratory of Dr. Lafayette B. Mendel of the Sheffield Scientific School is very popular with teachers of Home Economics. There are with him at present: Miss Isabel Bevier of the University of Illinois; Miss Louise Stanley, of the University of Missouri; Miss Amy L. Daniels, of the Springfield (Mass.) Technical High School; Miss Alice F. Blood, of Simmons College and Miss Jessamine Chapman of Sweet Briar College, Va.

Chicago Public Schools. The Domestic Science and Household Arts work in the public schools of this city has been reorganized as a special department under the direction of a supervisor. It is expected that this will necessitate no radical changes but will tend to greater unification of the work. Miss Mary E. Snow, formerly of Pratt Institute, has been appointed supervisor and has entered upon her duties.

School Lunch Rooms in Philadelphia. The Principal of the William Penn High School, Dr. Herrick, has obtained the consent of the Board of Education to establish a well-equipped lunch room. The William Penn High School was opened this fall in a beautiful new building which accommodates 1,700 pupils. The lunch room is situated on the ground floor, on the south side of the building and will seat 400 persons. There is also a dining room for the faculty. Miss Emma Smedley has been selected to superintend these luncheons and expects to begin work at once.

Hope Farm School for Children. The Episcopal Church has established a protectory home for children at Verbank, Dutchess Co., N. Y., where in addition to the usual studies, agriculture and Home Economics are taught. The children assist in the laundry work and the baking for the farm under the direction of Miss Elene E. Geer who has charge of instruction of this character. The Right Reverend David H. Greer is the president of Hope Farm.

NEWS FROM THE FIELD.

Formation of a New England Home Economics Association.

The formation of a New England Section of the American Home Economics Association was first formally considered at a meeting in Boston, May 25. This was called by Mrs. Ellen H. Richards, president of the American Home Economics Association, who with Miss Sarah Louise Arnold and Miss Abby L. Marlatt of the council, and about 15 other members of that association, formed the nucleus of the gathering. Over 70 persons were in attendance, and remarks were made by a large number in favor of an organization. A resolution was adopted under which Mrs. Richards became the chairman of a committee to consider the details of organization, and report at a meeting in October.

This adjourned meeting was called to order October 9, by Mrs. Richards at Simmons College, Boston, with about 125 in attendance. Greetings from President Lefavour of Simmons College were read in his absence, and Miss Arnold extended a welcome on his behalf to Simmons College with its 700 students of whom more than 300 are directly interested in household economics. In her remarks Miss Arnold also expressed the deep appreciation and gratitude of all to Mrs. Richards for her faithful and unflinching attention to the cause of Home Economics and for the work which she has accomplished.

A discussion followed in which Dr. Brackett of the School for Social Workers, gave as the reasons for his deep interest in Home Economics its relation to practical eugenics, and to the higher side of human progress.

Professor W. D. Hurd, formerly of the University of Maine and recently appointed director of short courses at the Massachusetts Agricultural College, spoke with special reference to farm conditions. He attributed the decaying condition of the average New England farm to the attitude of the father and mother against farm life. He felt that the safety of the nation lay in educating the people on the farms to a real understanding and interest in their work.

Mr. Hollis Godfrey explained in some detail the way in which the sciences had been introduced into the Boston Girls' High School of Practical Arts. Miss Helen Thompson spoke of what was being done at the Rhode Island State College for young women, describing the work as "a strong course in the physical sciences with the major line of Home Economics in foods, that is, the study of the question of foods as to the constituents, chemical composition, cooking processes, etc., in this way more closely relating the work to the manual training schools, and carrying it into dietetics, normal nutrition, and sociological problems that affect the home."

Miss Bertha M. Terrill, from the University of Vermont, said that though the work was only just started there, the enrollment was over 70 students and that a large increase was expected. At the opening of the college year additional courses in chemistry, biology and physiology, a course for high school seniors, and a lecture course for teachers had been offered to which a great many had responded.

Mr. Weaver of the Boston Trade School for Girls, and Master of the Girls' High School of Practical Arts, then spoke, saying that from his point of view, too many of the shortcomings of our life were thrown back on the public schools to be remedied. He sincerely hoped that the organization would be not only for teachers but also for people of various occupations and professions, in order that they might be united to throw light upon the subjects of Household Economics.

Mr. Hartman of the Civic League spoke very interestingly of City Health and the various civic and individual problems as he saw them as related to Home Economics.

A constitution was adopted as a tentative working basis until the next annual meeting in May. The officers chosen were announced in the October number of the JOURNAL.

**Home Economics
Association of
Greater New
York.**

The Association has planned monthly meetings for 1909 and 1910, the first meeting being held October 30th. The main purpose of this Association is to bring together workers in various fields that are closely allied with Home Economics. Some definite topic of practical import in New York City is selected for discussion, that for the first meeting being School Luncheons in New York City. A practical experiment in this line is under way, directed by Miss Mabel Kittredge. In view of the importance of the subject it is hoped to enlist the support of all school principals and teachers and the general public.

Among the working committees of this Association, that on Publicity aims to collect for the members literature of value. At the June meeting, for instance, when Dr. Darlington lectured on the work of the Board of Health, all the health pamphlets issued by the City were displayed, as well as other pamphlets for free distribution, among them those published by the U. S. Department of Agriculture. The Committee on Nutrition is to investigate dietetic conditions in New York City, and collect the data already in existence.

**Literature on
Methods of
Teaching Home
Economics.**

Many queries are received from teachers and others interested in introducing this work, with regard to a book on methods and courses of study. There is very little published in book form, but in the last five years material of value is to be found in reports of associations and in magazines. The following list gives some of these reports. Will those who know of other reports, send the titles, etc., to the Secretary of the American Home Economics Association, 525 West 12th Street, New York?

(1) Proceedings Lake Placid Conference on Home Economics, 1908. Price \$0.50. B. R. Andrews, Secretary A. H. E. A., 525 W. 120th St., N. Y.

(2) Syllabus of Domestic Science for High Schools of Illinois. \$0.10. Department of Household Science, University of Illinois, Urbana, Ill.

(3) Course of Instruction, Technical High School, June, 1907. Technical High School, Springfield, Mass.

(4) Board of Education, District of Columbia, 1908-1909. Outline Course of Study in Domestic Science Department. N. T. Elliott Printing Company, Washington, D. C.

(5) Fourth Yearbook of the National Society for the Scientific Study of Education, Part II. "The Present Status and Future Development of Domestic Science Courses in the High School," by Mrs. Richards. The University of Chicago Press, Chicago, Ill.

(6) Report of Eastern Manual Training Association, 1904-1905. \$0.25 to \$0.50. Thellwell R. Coggeshall, 1505 Centennial Avenue, Philadelphia, Pa.

(7) Manual Training Magazine, April, 1909. \$0.35. "Some Phases of Household Arts in the Secondary Schools," by Helen Kinne. The Manual Arts Press, Peoria, Ill.

Cost of Feeding City Prisoners.

The cost of feeding the prisoners in the county jail and those in the city prison in the city and county of San Francisco during the nine months ended April 1, is reported by the Sheriff and Chief of Police respectively to have been as follows: In the county jail the average number of prisoners was 360. The average cost of feeding and clothing each was 23 cents per day. The cost of feeding does not include the board of jailers and guards, the care of the van and commissary's horses, etc., which totals about \$11,000 annually and which items are charged to the appropriation for maintenance of prisoners. The breakfasts furnished consisted on week days of mush and syrup, one-half loaf of bread and one and one half pints of coffee. Dinner and supper consisted, on Mondays and Wednesdays, of pork and beans, 1 1/2 pints of bean soup, 1/3 loaf of bread and one pint of coffee; on Tuesdays, Thursdays, Saturdays and Sundays, of 1 1/2 pints of vegetable soup, 8 ounces of meat, potatoes, 1/2 loaf of bread and one pint of coffee; and on Friday, of 8 ounces of fresh fish or codfish, one-half loaf of bread and one pint of coffee. Felony prisoners and those not working are allowed but two meals, while those who work are given three.

In the city prison the average number of prisoners per month was 3,400. The average cost of feeding each prisoner three meals per day was 14 3/4 cents. Their breakfast consisted of 1 1/2 pints of coffee, 1/3 loaf of bread, rolled oats mush and syrup. Dinner was 1 1/2 pints of vegetable soup, 8 ounces of meat, potatoes and 1/3 loaf of bread. Supper was 1 1/2 pints of tea and 1/3 loaf of bread. *The Municipal Journal and Engineer*, 26 (1909), No. 17, p. 718.

BOOKS AND LITERATURE.

Parcimony in Nutrition, J. Crichton-Browne. Funk and Wagnalls Co.
London and New York, 1909, pp. vi,+iii.

In this volume the author gives reasons for his belief in a generous rather than a low proteid diet, drawing his evidence from personal experience, from considerations of public health, from the study of the animal functions, the effects of undernutrition of school children and of the poor, and from the general experience of mankind.

"The poor have much to learn in the way of economy of food, but it is economy in the selection and preparation of food, and not in the lopping off of proteid. The urgent question for us today is not how we may teach them to thrive on an attenuated fare, but 'whence shall we buy bread that these may eat?' We should aim not at parsimony in nutrition, but try to 'scatter plenty o'er a smiling land'."

Food Values—Practical Methods in Diet Calculations. *Bul. Amer. School Home Econ. Ser.* 1, 1909, No. 13, pl. 1, figs. 13.

Professor Irving Fisher's graphic method of calculating dietaries is explained. The tables given in his article are reprinted, as the edition of the original publication^a is exhausted. The bulletin gives data for the nutritive value of a large variety of foods both on a uniform basis of portions supplying 100 calories of energy, and on the basis of composition and energy value per ounce. The latter data are compiled from publications of Dr. J. H. Kellogg.

State Supervision of Restaurants. *Amer. Food Jour.*, 4 (1909), No. 5, pp. 16, 17.

The necessity for such supervision is pointed out and some legislative enactments bearing on the subject are referred to.

Plastering the Outside of Old Dwellings, J. E. Wing, *Breeder's Gaz.*, 55 (1909), No. 19, pp. 1116, 1117.

On the basis of experience the author gives directions for covering the outside of old wooden buildings with plaster. It is found that such treatment is reasonably inexpensive and that they will remain in good condition for a long time.

Country School Houses, J. E. Wing, *Breeder's Gaz.*, 55 (1909), No. 19, p. 1117.

Suggestions are given for improvements in the construction, ventilation, etc., of rural school houses.

Concrete Construction About the Home and on the Farm (Pamphlet by Atlas Portland Cement Co., pp. 127; rev. in *Pure products*, 6 (1909), No. 5, p. 279).

^a J. Am. Med. Assn., 48 (1907), No. 16, pp. 1316-1325.

Method for Measuring the Capillary Absorption of Materials used in Construction, M. Pasquale, *Ann. Ig. Sper.*, n. ser., 19 (1909), No. 1, pp. 123-137.

Marble, stone and other materials used in house construction, etc., are included in the author's investigation.

Textile Chemistry and Dyeing. L. A. Olney, Chicago. Amer. School of Correspondence. 1909, pp. 11 + 343.

A manual of instruction in the art of bleaching and dyeing.

The subjects of the sections are as follows: Chemical Study of the Fibres; Scouring the Textile Fibres; Bleaching of Wool; Bleaching of Cotton; Classification of Dyes; Application of Acid Dyes; Representative Acid Dyes; Testing the Fastness of Colors; Application of Basic Dyes to Wool and Silk; Basic Dyes on Cotton; Representative Basic Dyes; Application of Substantive Dyes to Cotton; Substantive Dyes on Wool and Silk; Representative Substantive Dyes on Cotton; Application of Mordant Dyes to Wool; Developed Dyes on Cotton and Silk; Sulphur Dyes on Cotton; Use of Logwood in Dyeing; The Minor Natural Dyes; The Mineral Dyestuffs; The Vat Dyes; The Testing of Dyestuffs; Chemical Reactions of Dyestuffs; Miscellaneous Tests in Dyeing; Testing the Fastness of Colors; and Analysis of Textile Fabrics. An appendix presents Useful Data for Dyers and Textile Chemists.

Laboratory Manual of Dyeing and Textile Chemistry. By J. Merritt Matthews, Ph.D., New York, John Wiley & Sons; London, Chapman & Hall, Ltd., 1909, 8vo., pp. xii + 363.

"This volume is designed with the purpose of meeting the demand for a text-book on the subject of textile dyeing and chemistry. . . The subject treated is a technical one, and an endeavor has been made to present it in a technical manner; that is to say, definite facts have been presented in a definite form. For this purpose, the experimental method has been adopted, further elucidation being given in additional notes as succinctly expressed as possible. The insertion of quiz questions has also been carried out in order to stir up the thought of the student after he has performed the manual experiment."

"This book is intended as an elementary manual for the students who are primarily to be found in the various textile schools and in institutions where the many branches of technical chemistry are taught. It is hoped that it will be of some value to both the student and the teacher. It is primarily a laboratory manual or guide, and is intended to direct and supplement the lectures of the teacher, and should be used in conjunction with the more general treatises on the subject."

"The subject matter is divided in such a manner as to provide a course of instruction for one complete college year, each section corresponding to a weekly apportionment of study."

The Theory of Dyeing, S. H. Higgins, *Chem. News*, 99 (1909), No. 2576, p. 169.

An interesting theoretical discussion of dyeing textile fibers.



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